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Final Environmental Impact Statement, Wastewater Treatment Facilities, Twining Water and Sanitation District, Tacos County, New Mexico

(U.S.) Environmental Protection Agency, Dallas

Apr 82

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1201 Elm Street
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EPA 906/9-82-006
April 1982

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Water

EPA

Environmental Impact Statement

Final

Wastewater Treatment Facilities

Twining Water and Sanitation District Taos County, New Mexico

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The Twining Water and Sanitation District (TWSD) has considered alternatives for wastewater management which would solve a pollution problem in the high quality Rio Hondo watershed of northern New Mexico. The TWSD seeks funding for the proposed design and construction of a new advanced treatment plant with a capacity of 95,000 gallons per day (gpd) which would accomodate about 20 percent growth in the number of peak-day skiers and a 50 percent increase in overnight visitors. EPA's preferred decision is to approve and support funding for the TWSD's proposed alternative. In arriving at this preferred decision, EPA considered many complex issues, including impacts on water quality, water supply, and socioeconomic conditions. EPA supports construction of a new advanced wastewater treatment plant as the most cost-effective means of achieving federal and State water quality goals and improving the quality of the Rio Hondo. EPA supports plant capacity of 95,000 gpd as necessary to provide the most efficient wastewater treatment for anticipated growth of the TWSD within the limits imposed by its wasteload allocation.

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Wastewater Treatment Facilities

Twining Water and Sanitation District Taos County, New Mexico

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
1201 ELM STREET
DALLAS, TEXAS 75270

April 19, 1982

TO ALL INTERESTED AGENCIES, OFFICIALS, PUBLIC GROUPS AND INDIVIDUALS:

Enclosed is a copy of the Final Environmental Impact Statement (EIS) on the awarding of a grant under Section 201 of the Clean Water Act for construction of upgraded wastewater treatment facilities for the Twining Water and Sanitation District (TWSD), Taos County, New Mexico. This EIS has been prepared in compliance with the National Environmental Policy Act of 1969 and implementing regulations.

Because changes from the Draft EIS are minor, this Final EIS incorporates the Draft EIS by reference and includes the following: (1) a revised and updated summary, (2) EPA's response to comments received on the Draft EIS; (3) revisions necessary to the Draft EIS; and (4) EPA's preferred action. This Final EIS shall also serve as the Final Responsiveness Summary. EPA received a large number of comment letters on the Draft EIS and testimony at the public hearing on the Draft EIS and facilities plan was extensive. Therefore, copies of the letters and the public hearing transcript (Appendix B of the Final EIS) will not be reprinted in the Final EIS but are available for public review, along with this Final EIS, at the following locations:

1. Harwood Foundation Public Library
   LeDeux Street
   Taos, New Mexico

2. Twining Water and Sanitation
   District Office
   Above the Fire Station
   Taos Ski Valley, New Mexico

3. Taos Pueblo Administrative Offices
   Taos, New Mexico

4. Supervisor's Office
   Carson National Forest
   Cruz Alta Road
   Taos, New Mexico

5. New Mexico Environmental
   Improvement Division
   Crown Building
   725 Saint Michael Drive
   Santa Fe, New Mexico

This Final EIS is being distributed to those who made comments on the Draft EIS and to those who requested a copy. Comments or inquiries on this EIS should be addressed to Mr. Clinton B. Spotts, Regional EIS Coordinator, at the above address by the date stamped on the cover sheet following this letter.

Sincerely yours,

James E. Phillips

Dick Whittington, P.E.
Regional Administrator

Enclosure

FINAL ENVIRONMENTAL IMPACT STATEMENT

WASTEWATER TREATMENT FACILITIES
TWINING WATER AND SANITATION DISTRICT
TAOS COUNTY, NEW MEXICO

Responsible Agency: U.S. Environmental Protection Agency, Region 6

Action being considered: Award of construction grant for wastewater treatment facilities in the Twining Water and Sanitation District, Taos County, New Mexico

Cooperating Agencies: U.S. Department of Agriculture, Forest Service, Carson National Forest
New Mexico Environmental Improvement Division

Contact for further information: Clinton B. Spotts, Regional EIS Coordinator
U.S. Environmental Protection Agency, Region 6
1201 Elm Street
Dallas, Texas 75270
Phone: Commercial (214) 767-2716
FTS 729-2716

Abstract. The Twining Water and Sanitation District has considered alternatives for wastewater management which would solve a pollution problem in the high quality Rio Hondo watershed of northern New Mexico. The District seeks funding for the proposed design and construction of a new advanced treatment plant with a capacity of 95,000 gallons per day (gpd), which would accomodate about 20 percent growth in the number of peak-day skiers and a 50 percent increase in overnight visitors. The District's Citizens Advisory Committee (CAC) supported funding for a similar plant having an initial capacity of 80,000 gpd, with expansion to 95,000 gpd under a policy in which the timing of hookups would be based on the performance of the new plant. The District has rejected the hookup policy recommendation of its CAC, preferring a conservative, but flexible, hookup policy. EPA's preferred decision is to approve and support funding for the District's proposed alternative. In arriving at this preferred decision, EPA considered many complex issues, including impacts on water quality, water supply, and socio-economic conditions. EPA supports construction of a new advanced waste treatment plant as the most cost-effective means of achieving federal and State water quality goals and improving the quality of the Rio Hondo. EPA supports plant capacity of 95,000 gpd as necessary to provide the most efficient wastewater treatment for anticipated growth of the Twining Water and Sanitation District within the limits imposed by its wasteload allocation.

Date Comments Due:

Responsible Official: Frances E. Phillips
Dick Whittington, P.E.
Regional Administrator

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PREFACE

On August 24, 1981 the U.S. Environmental Protection Agency (EPA) filed a Draft Environmental Impact Statement (EPA 906/9-81-002) regarding wastewater treatment facilities in the Twining Water and Sanitation District, Taos County, New Mexico. Since that time, EPA has received and reviewed extensive public comments on the Draft EIS, and has determined its preferred course of action with regard to the funding of treatment facilities in Twining.

This document is the Final Environmental Impact Statement (Final EIS) on the awarding of design and construction grants for the proposed upgrading of wastewater treatment facilities in the Twining Water and Sanitation District (TWSD), Taos County, New Mexico. Since responses to comments received on the Draft EIS did not require significant changes in data or analyses, the Draft EIS was not reprinted in full. This Final EIS incorporates the Draft EIS by reference and identifies all written and oral comments received during public review, the responses to those comments, and additions and corrections to the Draft EIS text resulting from public review. The Draft EIS and this Final EIS, together, constitute the complete Final Environmental Impact Statement.

The Final EIS is presented in two volumes. This volume, the main text, contains four parts: a summary which presents the major conclusions of the Draft and Final EIS (Part I); a listing of and responses to comments on the Draft EIS (Part II); revisions to the Draft EIS made in response to comments (Part III); and a discussion of the preferred alternatives identified by formal participants in the planning process (Part IV). Official letters of participants received regarding the Draft EIS are included in Appendix A, which is part of this volume.

Due to the substantial number of letters received on the Draft EIS, the comments have been summarized for incorporation into the body of the report, presented in this volume. Appendix B of this report presents the full text of all letters received; the availability of copies of the Appendix is stated on page II-2 of the Final EIS. Similarly, the transcript of the Public Hearing is voluminous and has been incorporated herein in summary form; it is available at the same locations as part of Appendix B.

A copy of the Draft EIS is available for review at each of the five depositories listed on page II-2. A limited number of copies of the Draft EIS are also available from the EPA Regional Office, (see cover page for the phone number and address).

Both the Draft EIS and Final EIS were prepared with the assistance of Lee Wilson and Associates, Inc. A list of persons involved in the preparation of the two documents is presented in Draft EIS Chapter 8.

PART I

SUMMARY OF DRAFT EIS AND FINAL EIS

PART I. SUMMARY OF DRAFT AND FINAL EIS

A. EXISTING PROBLEMS

The Twining Water and Sanitation District (TWSD) is responsible for wastewater management for the resort complex of Twining, commonly known as Taos Ski Valley. Figure I-1 illustrates the general location of Twining with respect to other communities in Taos County, which is in Northern New Mexico. TWSD owns and operates an existing sewer system and treatment plant which serves recreational, commercial and residential facilities in the base area of the resort complex. The existing facilities have long been and remain a source of pollution which has adversely affected the high-quality waters of the Rio Hondo. Past problems related to excessive discharges of organic matter, solids and bacteria have partly been controlled by recent improvements to the treatment plant, although violations of permit effluent limitations continue. Treatment would improve if infiltration problems were corrected. Also, the existing plant must be modified or replaced in order to comply with proposed regulations requiring the control of the nutrient phosphorus. Full protection of water quality in the Upper Rio Hondo may require control of nonpoint pollution sources such as runoff from the base area, erosion of fertilized ski trails and discharges from septic tanks and cesspools. Runoff control measures are discussed in the U.S. Forest Service Final Environmental Impact Statement, Proposed Taos Ski Valley, Inc. Master Development Plan, May 29, 1981.

While all concerned agree that TWSD must upgrade its pollution control activities, there is disagreement about whether or not any treatment facilities should provide capacity to accommodate further development in the resort area. TWSD intends initially to provide sufficient treatment capacity to allow an approximate 20 percent increase in the sale of lift tickets and a 50 percent expansion in base area overnight accommodations; additional expansion for overnight visitors may occur if stream quality can be protected. This development is opposed by groups representing downstream residents who are concerned that the growth will harm the water quality and quantity of the Rio Hondo, and will have adverse effects on the socio-economic environment of the area.

B. PROJECT ALTERNATIVES

The no action alternative would fail to solve the existing pollution problem and is not acceptable. Fifteen specific treatment alternatives were evaluated as shown in Table I-1 based on eight issues: cost; engineering reliability; impacts on water quality and water supply; construction and land use (growth) impacts; potential for community conflict; and benefit to the region. For example, alternatives rated 1 as to cost are the least expensive options. The treatment alternatives can be broadly characterized as follows.

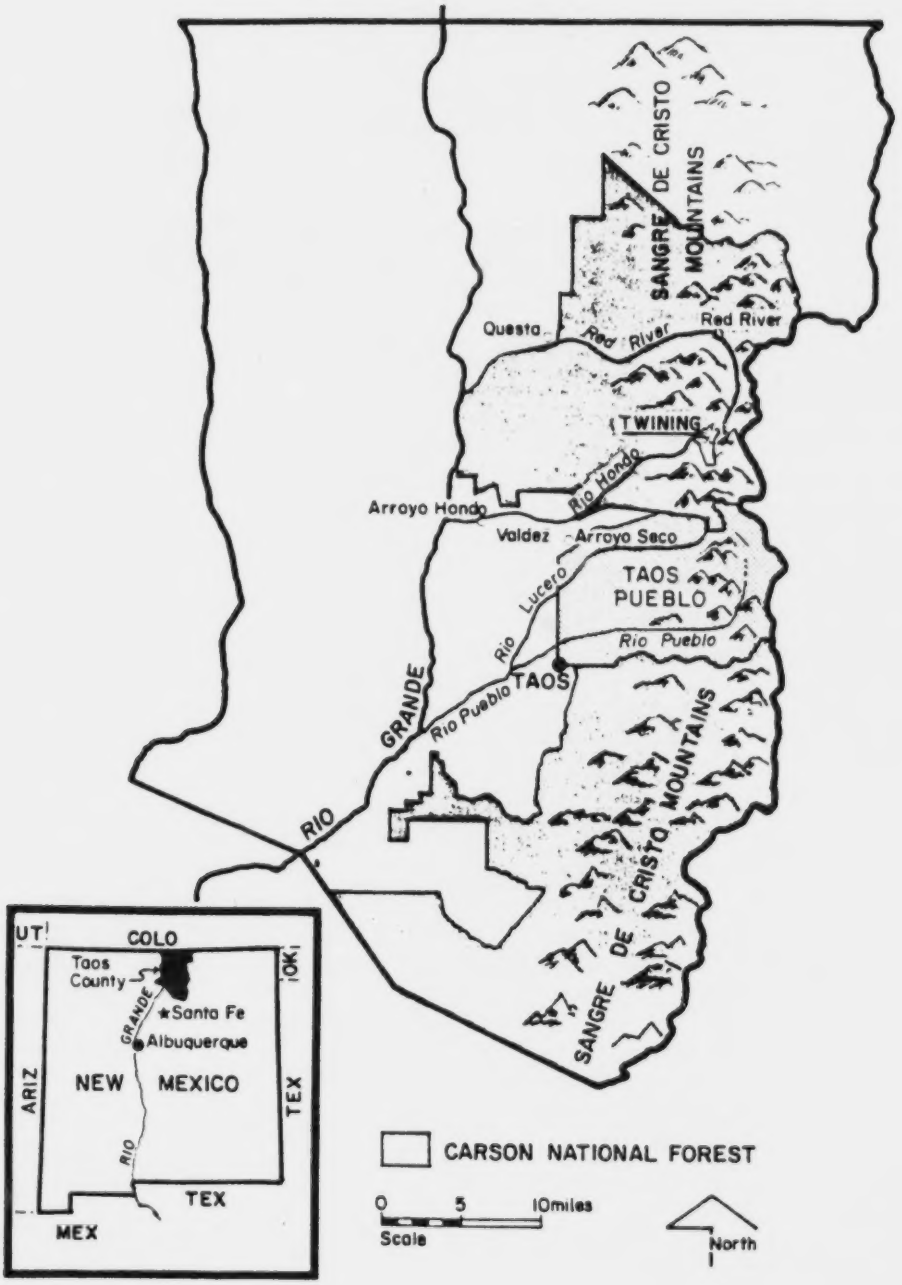

FIGURE I-1

LOCATION MAP: TAOS COUNTY, NEW MEXICO

TABLE I-1. EVALUATION OF FIFTEEN TREATMENT ALTERNATIVES.

ISSUES are identified by letter, as follows. A = Cost. B = Reliability. C = Water quality. D = Water supply. E = Construction impacts. F = Land use (growth). G = Community conflict. H = Benefits to region.

Name of alternative	Brief description of alternative	Ratings on ISSUES a/								Pros = reasons which might lead some people to favor an alternative. Cons = reasons which might lead some people to reject an alternative.
		A	B	C	D	E	F	G	H	
1. Conventional new plant	Build new plant in Twining using advanced technology which needs energy, chemicals	1	2	2	2	1	2	1	3	Pros: "conventional" approach Cons: energy use; complex operation
2. Aquaculture	Build new plant in Twining using new technology which grows algae in ponds inside a greenhouse	1	2	2	2	1	2	1	2	Pros: very progressive in its use of resources; comparatively inexpensive Cons: too new an idea to know how well it will work
3. Septic tanks	Abandon the sewer system; everyone uses septic tanks	1	1	3	2	1	1	1	3	Pros: "conventional" approach; inexpensive; simple Cons: will not solve the pollution problem
4. Greywater/ blackwater	Some sewage goes to existing (renovated) plant; toilet wastes to composting toilets	2	3	2	2	1	2	1	3	Pros: very progressive in its use of resources Cons: expensive; reliability uncertain
5. Storage and discharge	Store the winter sewage and discharge it in spring when river can better assimilate nutrients	1	2	3	1	1	2	1	3	Pros: may improve downstream water supplies in terms of quantity; inexpensive Cons: may not solve pollution problem
6. Total detention	Pipe sewage to ponds near Arroyo Seco and evaporate it	3	1	1	3	3	2	2	2	Pros: simple; takes Twining sewage out of Rio Hondo Cons: expensive; wasteful of water; water rights would be needed
7. Land application (farming)	Pipe sewage to ponds near Arroyo Seco and let farmers use it for irrigation	2	2	2	1	3	2	3	2	Pros: supports farming; not too expensive Cons: requires agreement of farmers, and some type of legal arrangement with Twining
8. Pipeline to Rio Grande	Renovate existing Twining plant; build pipeline to Rio Grande (west of Arroyo Hondo) and discharge sewage there	2	2	1	3	2	2	2	3	Pros: takes Twining sewage out of Rio Hondo Cons: water rights would be needed; major construction impacts
9. Holding tanks	Store sewage in ponds in Twining and use trucks to haul it to the Town of Taos sewage plant	1	2	1	3	1	2	2	3	Pros: simple, relatively inexpensive; eliminates pollution in Rio Hondo Cons: uses energy; heavy truck traffic; water rights would be needed
10. Regional plant in Hondo Valley	Pipe sewage to a new regional sewage plant near Arroyo Hondo	2	3	1	3	3	3	3	1	Pros: eliminates pollution in Rio Hondo; could provide sewers for downstream residents Cons: major land use changes could occur in Hondo valley; major construction impacts; water rights would be needed
11. Regional plant in Taos	Pipe sewage to Town of Taos sewage plant	2	3	1	3	2	3	3	1	Pros: takes Twining sewage out of Rio Hondo; could provide sewers for Arroyo Seco-El Prado area Cons: major land use changes could occur near Taos; major construction impacts; water rights would be needed
12. Rehabilitation	Renovate existing plant and add on advanced processes for nutrient removal	1	3	2	2	1	2	1	3	Pros: "conventional"; relatively inexensive Cons: reliability is questionable
13. Total treatment	Build very complex plant in Twining which would turn sewage into drinking water for use by Twining	3	3	1	2	1	2	1	3	Pros: takes Twining sewage out of Rio Hondo, without adverse effects on flows Cons: extensive energy and chemical use; very expensive; against federal, state regulations
14. Greywater evaporation	Combine alternatives 4 and 6: compost toilets, greywater evaporation	3	3	1	3	3	2	2	2	Pros: simple; takes Twining sewage out of Rio Hondo Cons: expensive; reliability uncertain; wasteful of water; water rights would be needed
15. Aquaculture + snowmaking	Combine alternatives 2 and 5	2	2	3	1	1	2	1	2	Pros: progressive in use of resources; would increase spring and summer runoff Cons: some questions about reliability; may not solve pollution problems

a. 1 = less impact (best rating); 2 = intermediate impact; 3 = more impact.

a. The widespread use of septic tanks (alternative 3) would have unacceptable water-quality impacts.

b. Construction of conventional treatment facilities (alternatives 1 and 12) would be comparatively inexpensive (on the order of $120,000 to $150,000 per year to serve existing development) and generally have less adverse environmental impacts than other choices.

c. Innovative processes (alternatives 2, 4, 5, 13, 14, 15) are generally much more expensive ($270,000 per year or more for total treatment or a combination blackwater-greywater system). Aquaculture is competitive with conventional systems but may not be reliable in a high mountain setting. Use of effluent for snowmaking probably would result in violation of water-quality standards.

d. Regional concepts, involving treatment facilities in downstream areas (alternatives 6-11), could benefit some persons outside Twining but would generally have severe adverse impacts on water supply, land use and community relations. After considerable public discussion, all such alternatives were opposed by the people of the area.

Of the fifteen alternatives, construction of a new plant or rehabilitation of the existing plant appear to be the most cost-effective; aquaculture could be acceptable if a pilot plant were successfully operated. The facilities plan engineer considers a new plant to be the most reliable choice for meeting water-quality objectives, which is an important consideration in a basin where past treatment failures have caused environmental damage.

Seven capacity alternatives range in size from 75,000 gallons per day (gpd) to 148,000 gpd. As a practical matter, discharges would be limited to 95,000 gpd based on proposed levels of treatment and the assimilative capacity of the Rio Hondo, unless and until a larger flow can be demonstrated to meet water-quality objectives. Table I-2 compares the impact of the two most representative capacity alternatives: B (an 80,000 gpd plant which would allow hookups of existing base facitities but provide for no new hookups and thus no increase in skier capacity nor any new high-density commercial development); and E (a 95,000 gpd plant which would permit an increase in the daily skier limit from 4050 to 4800, and which would service nearly 500 new pillows in the base area).

Community opinion regarding alternatives B and E is sharply divided. On the one hand there are substantial economic benefits to the Taos region from increased skier use at Twining, and these benefits are greater from alternative E than alternative B. Moreover, growth in Twining is not constrained by any legal limitations and is viewed by some as inevitable. (Indeed, if water-quality requirements are met and zoning or other development controls are not adopted, an even larger plant could be built in the future.) Thus a 95,000 gpd plant is seen by many as both necessary and as providing substantial economic benefit to the community by servicing an expanding winter tourism industry.

TABLE I-2. IMPACTS OF CAPACITY ALTERNATIVES.

Impacts from Alternative B relate to: no increase in skier limit (remains at 4050); increased visitation during off-peak periods (winter); small increase in summer; 470 new pillows in 94 new cabins (added to 295 existing pillows); no increase in commercial facilities (remain at 931 pillows); see Tables 6-7, 6-8, 6-9. In reality, impacts associated with alternative E would probably also occur from alternative B, but serviced by on-site systems rather than a central treatment plant.

Impacts from alternative E would include all changes listed for alternative B, plus increase in skier limit from 4050 to 4800, proportional (20 percent) increase in off-peak use; expansion/construction of lodges and condos to provide for 50 percent more overnight capacity in commercial facilities of base area (489 new pillows added to 931 existing) [a]. As stated above, all these changes could occur under alternative B; however, alternative E would facilitate these changes. Impacts marked with asterisk (*) could occur outside Twining if skier limit is increased, but overnight capacity is not (symbolically this should be achieved by alternative D).

Factor	Alternative B (80,000 gpd)	Alternative E (95,000 gpd)
Populations; see Tables 6-7, 6-8, 6-9	Peak day remains at 4705 Overnight capacity increase from 1226 to 1696 Annual visitation increase from 275,000 to 520,000	Peak day increase to 5579 Overnight capacity increase from 1696 to 2185* Annual visitation increase from 520,000 to 615,000 If half new jobs in Twining taken by existing residents, then 38 persons would immigrate to region because of increased employment
Water Resources; see Section 6.2.7	Reduce pollution due to improved wastewater treatment; increase in potential non-point source pollution from cabins (but may be controlled - see 5.4.2); potential decrease in other non-point sources (see 5.4.7)	Reduce pollution due to improved wastewater treatment (but, if plant should fail, pollution would be greater than from B); potential increase in non-point source pollution from cabins (but may be controlled - see 5.4.2); more potential for construction impacts* (see Table 6-1); potential decrease in other non-point sources (see 5.4.7)
	Need for 11 acre-feet/year of water rights (including expanded snowmaking); can be obtained from rights already held by TSV, Inc. and/or TWSD	Need for 4 additional acre-feet of water rights beyond impacts of alternative B; of these 1 AFY would be for the skier limit increase and 3 AFY* would be for the increase in overnight capacity; can be obtained from rights already held by TSV, Inc. and/or TWSD
	Increase in annual visitation would require an additional 5 acre-feet of rights outside of TWSD (e.g. Amizette, Valdez, Arroyo Seco or wherever the skiers are lodged)	Could reduce the demand for regional water rights from 5 to 2 AFY because skiers stay in Twining, not elsewhere*
	The historic decline in streamflow in the Rio Hondo would not be significantly affected by either alternative because it is caused by reforestation of the watershed and reduced snowfall, and not by development at the ski valley	
Traffic, Air Quality, Noise (See Section 6.5, Table 6-8, 6-9)	Peak traffic stays at 1650 cars/day Total traffic increase from 104,000 vehicle-trips per year to 196,000 vehicle trips per year [b]	Peak traffic increases by 310 cars to 1960/day Total traffic increase from 196,000 to 233,000 vehicle trips per year [b]
	Air emissions, noise and energy use increase proportionally but standards not violated	Air emissions, noise and energy use increase proportionally but standards not violated
Economics [c] (See Table 6-8, 6-9)	Increase in revenues from $27.5 million to $52 million/year; jobs remain at 1560	Increase in revenues from $52 to $61.5 million per year; 190 additional jobs (total 1750)
Culture; Sensitive Resources (See Section 6.5, 6.6.6)	Growth/impacts part of complex factors which influence changes in traditional agrarian society; significance of impacts widely debated	Similar to B but: more tourist influx and cash flow; greater portion of tourists lodge in TWSD*
	Possible increase in use of wilderness area and trespass on Indian lands (but small compared to problems if area becomes summer resort)	Similar to B, but slightly greater because of more skiers and overnight residents*
Other (See Table 6-1; Section 6.7, 6.6.7)	Construction on 94 cabin lots; improvements in ski area as described in USFS (1981) and Table 6-6; construction at treatment plant; investment of energy, chemical and money to improve wastewater treatment; much higher sewer rates than at present	Similar to B except: addtional construction on 3 - 5 acres of base area*; increase in rates more widely shared

a. If the District were to so allow, some or all of this change could occur in high-density development using independent treatment systems.

b. Assumes no benefits from shuttle service or from reduced commuting which may result from expanded lodging in Twining.

c. Values are for a good ski year and, as discussed in Table 6-9, more than half occur in Taos region, not in Twining.

However, negative impacts (including more traffic, more water use, and more potential discharge from nonpoint sources) also increase with growth. Many citizens believe that since any wealth created by winter tourism is not equally shared among community members, it adds to the stresses which threaten the survival of the established Indian and Hispanic cultures. These residents, including many living downstream of Twining, believe that as a matter of equity an 80,000 gpd plant is more appropriate until TWSD can demonstrate that its facility will reliably solve existing water pollution problems. They propose that if and when TWSD is in full compliance with all regulations, expansion of the facility would be possible using private funds - that is, at the direct expense of those who benefit. The debate over the capacity alternatives has been sharp. At least in part, this may reflect widely different individual perceptions about what is 'best' for the Taos area.

A large number of other alternatives considered by the District relate to specific components of wastewater management. In general, it appears to be most cost-effective to: rehabilitate the sewer system to control infiltration; actively manage on-site systems; use advanced disinfection techniques to more fully protect the quality of the Rio Hondo; increase water-conservation efforts, especially through use of dry toilets or extremely low-flush toilets; design rates to recover costs from those who use the area. Of particular importance are alternatives which were considered by the District for ensuring that water-quality objectives are indeed met by any new facilities. The primary options include: adoption of an expansion policy, in which new hookups would be contingent on plant performance; and value engineering analysis of plant design, construction and operation.

C. COMMENTS ON DRAFT EIS

A Public Hearing on the Draft EIS was held in Taos on October 20, 1981, and written comments were accepted through November 3, 1981. Most of the public input involved support for one of the available alternatives, that is support for public funding of an expanded plant, support for funding of a plant which would have the capacity only to serve existing development, or support for a plant to serve existing development but with no federal funding. Many specific comments were received regarding particular facts and conclusions in the Draft EIS. Where appropriate, the EIS was revised in response to such comments, and the changes are incorporated into this Final document. Other revisions have made to reflect circumstances which have changed since the Draft EIS was issued.

Two issues were raised which involved fundamental disagreements with a major conclusion or analysis presented in the Draft EIS.

a. Representatives of downstream residents are concerned that Twining's discharge will pollute downstream drinking water and believe this matter was not properly assessed in the Draft EIS. EPA believes that drinking-water protection was considered in the Draft and that pollution would be

controlled by the advanced treatment facilities proposed by the District. The distance between the discharge point and the drinking-water use adds a safety margin.

b. EPA was requested to perform a more detailed analysis of the impacts of alternatives on the economic, social and cultural environment of the Rio Hondo watershed and the Taos region; those making this request deem the Draft EIS to be incomplete without such an analysis. EPA has reviewed the Draft EIS and believes that it has the level of detail appropriate to the decision which the agency must make, especially given that socio-economic impacts of capacity alternatives B and E are similar in many fundamental respects. A more thorough study would be appropriate in making long-term economic and land use decisions, but such decisions are a local responsibility and are not within EPA's authority.

D. PREFERRED ALTERNATIVES

Active participants in the selection of the preferred alternative include the District, the U.S. Forest Service (USFS), the New Mexico Environmental Improvement Division (EID), and the U.S. Environmental Protection Agency (EPA).

In general there seems to be agreement that advanced treatment facilities (alternative 1) are appropriate for Twining, but major differences exist with respect to plant capacity. The TWSD formed a Citizens Advisory Committee (CAC) consisting of members from throughout the Rio Hondo watershed and the Taos area. The CAC adopted a consensus recommendation which supported funding of an 80,000 gpd plant capable of future expansion to 95,000 gpd. They further recommended: 1) that future expansion and new hookups be phased as the District proved its ability to consistently meet discharge requirements; 2) that the expansion be paid for by the District; 3) adoption of several specific monitoring techniques to insure compliance. The CAC's position was generally accepted by local citizens who had opposed the project, and it has been supported in principal by the EID, although that agency has no authority to require phased hookups as a funding or permit condition. The CAC specified that rejection of any recommendation by the District would constitute a rejection of all recommendations, and in effect would mean that the CAC as a group did not support federal funding for a new facility.

While the District accepted many CAC recommendations, it rejected the major proposal to phase in hookups in proportion to plant performance. Rather, TWSD seeks to obtain full funding for the design and construction of a 95,000 gpd plant; the full capacity would be reached within a few years of initial operation if permit requirements can be met. The alternative preferred by the TWSD could receive federal funding estimated at $750,695.

EPA agrees with TWSD that a 95,000 gpd facility should be constructed as soon as practicable. Construction of a small plant would accomplish minimal cost savings and could cause proliferation of privately owned systems which would increase the probability of pollution and the practical difficulties of

enforcement. Moreover, EPA could not legally fund a plant with less than sufficient reserve capacity.

Given the history of permit violations by TWSD, concern about its future performance is understandable. EPA does not believe, however, that the CAC's proposed hookup policy is necessary to insure the new plant's compliance with its effluent limitations. On completion, the plant will have 15,000 gpd reserve capacity, negating any probability of overloading when it commences operation. Under these circumstances EPA may not legally require TWSD to adopt the hookup policy recommended by the CAC.

EPA's preferred alternative is to provide federal funding to TWSD for construction of an advanced treatment process (alternative 1) plant having 95,000 gpd capacity (alternative E). EPA believes that this alternative will promote environmental quality in the Rio Hondo valley by eliminating water pollution caused by the inadequate existing plant.

The EID supports construction of wastewater facilities to eliminate pollution of the Rio Hondo, and will evaluate Twining's specific proposed action at such time as a formal grant application is submitted. The District must seek USFS approval to construct the new plant, which will lie on federal land; no major obstacles to this approval are foreseen. The USFS will also oversee nonpoint-source controls to be implemented by Taos Ski Valley as part of a recently approved master plan for expansion of parking facilities and various up-mountain improvements in the ski area.

PART II

CONSULTATION AND COORDINATION

PART II. CONSULTATION AND COORDINATION

This Part of the Final EIS briefly discusses the extensive public participation prior to preparation of the Draft EIS (Section A), explains the process through which the Draft EIS received public review (Section B), summarizes the comments received regarding the selection of alternatives (Section C), and provides EPA's responses to those comments which addressed specific components of the Draft EIS (Section D).

A. PUBLIC PARTICIPATION PRIOR TO RELEASE OF THE DRAFT EIS

Chapter 7 of the Draft EIS contains a summary of public involvement in the planning of wastewater facilities for Twining. Public input was received principally through three mechanisms: 1) a formal scoping meeting held on October 2, 1979; 2) frequent meetings of the Citizens Advisory Committee (CAC) appointed by the Twining Water and Sanitation District Board; and 3) public meetings held by the CAC. The extensive citizen interest in the Twining project is illustrated by the fact that the scoping meeting was attended by more than 300 persons, of whom 24 made oral presentations (mostly in opposition to expansion and/or funding of Twining facilities, and calling for enforcement of the existing permit); 197 letters were received for inclusion in the official record (mostly in favor of a new treatment plant for Twining); and petitions containing a total of 605 signatures were submitted (in opposition to a new facility at Twining).

The TWSD and the CAC took the lead in the public participation process. To enhance public input, they: 1) hired Mesa Consultants to serve as public participation coordinators, and Southwest Research and Information Center to provide independent technical assistance; 2) placed written information developed during the EIS process on file for public review at four local locations; 3) held frequent committee and sub-committee meetings open to the public; 4) sponsored three public meetings and an open house; and 5) advertized meeting dates in the newspapers and on radio.

The public meetings were widely attended and extensive public comment was received. The comments addressed: the need to effectively resolve present and future environmental problems, especially with respect to protection of water quality and supply in the Rio Hondo; opposition to regional alternatives; concern with TWSD's ability to operate its facilities reliably; opposition to growth of Twining in order to protect the environment and local cultural traditions; support for growth of Twining to benefit the regional economy; and the costs of and funding sources for prospective new facilities.

B. REVIEW OF THE DRAFT EIS

The Notice of Availability of the Draft Environmental Impact Statement appeared in the Federal Register September 4, 1981, and in various newspapers including the Taos News, the Santa Fe New Mexican, and the Albuquerque

Journal. The Notice announced a 60-day public review period ending November 3, 1981. The public review period was scheduled to provide concerned agencies and the public an opportunity to review the Draft EIS and to offer comments on the adequacy of the draft statement and the environmental impact of the proposed action and its alternatives.

Over 350 copies of the Draft EIS were distributed to reviewing agencies and to interested members of the public. Copies of the Draft EIS also were made available to the public at six locations in the Taos area: Harwood Foundation Library; Twining Water and Sanitation District; Taos Ski Valley; Taos Pueblo Administrative Offices; Supervisor's Office, Carson National Forest; and Taos County office of the New Mexico Environmental Improvement Division (EID). A seventh depository was the EID State office in Santa Fe.

The Public Hearing was held in Taos, New Mexico, on October 20, 1981. Public comment on the awarding of funds for wastewater treatment facilities in Twining was solicited through formal oral testimony and written statements. In addition to announcement of the meeting in the above referenced Federal Register, the public was notified by advertisements in local newspapers, use of the mailing list, and additional news media coverage. Thirty people, excluding government officials and consultants involved in preparation of the EIS, spoke at the Public Hearing. A complete transcript of the hearing is provided under separate cover in Appendix B to this Final EIS. The transcript is available at the following depositories:

1. Harwood Foundation Public Library, LeDuex Street, Taos, New Mexico;

2. Supervisor's Office, Carson National Forest, Cruz Alta Road, Taos, New Mexico;

3. Twining Water and Sanitation District Offices, above the Fire Station, Taos Ski Valley, New Mexico;

4. Taos Pueblo's Administrative Offices, Taos, New Mexico; and

5. New Mexico Environmental Improvement Division, Crown Building, 725 Saint Michael's Drive, Santa Fe, New Mexico.

During the public review period, 240 comment letters were received, including one petition with 301 signatures and one group of 21 affidavits. Along with the hearing transcript, each letter was reviewed to determine if it contained substantial comments which required a response in the Final EIS. Comments which presented new data, questioned facts and/or analyses, or commented on the issues bearing directly on the Draft EIS or the environmental impacts were fully evaluated and responded to, and as appropriate, changes or additions to the text of the Draft EIS have been incorporated into this Final EIS. A complete compilation of the letters is provided under separate cover as Appendix B, which is available at the depositories listed above.

C. COMMENTS RELATED TO THE SELECTION OF ALTERNATIVES

Comments on the Draft EIS can be divided into two general categories: most were recommendations with supporting reasons regarding the alternatives which TWSD should select and/or EPA should fund; some were substantive disagreements with or questions about specific statements or conclusions presented in the draft document. Table II-1 summarizes the comments which set forth a position regarding the alternatives. EPA reviewed these comments prior to reaching the conclusions which are presented in Part IV of this Final EIS; the reasons for EPA's conclusions presented in Part IV contain the Agency's response to the comments in Table II-1. Section C does not discuss the specific comments on EIS content, except to mention them where they were cited in support of a position with respect to the alternatives.

Table II-1 is organized into three parts: Part 1 reviews comments received at the Public Hearing; Part 2 presents comments received from government agencies which have a formal role in EIS review; and Part 3 presents comments expressed by the general public in letter form. Within each part, comments supporting a particular alternative are grouped together.

D. RESPONSES TO COMMENTS

For all comments which presented substantive disagreements or questions about the content of the Draft EIS, EPA developed a written response. These comments and responses can be separated into three groups. First, as shown in Table II-1 much of the public input related to federal funding for new facilities. In addition to positions for or against such funding, specific questions were raised about the equity of spending funds on a resort community, and the prospect was raised that federal funding for construction would be inappropriate if there are not adequate funds for enforcement. (Testimony of John Sawyer; comment letters 228, 233, 236) EPA's response to concerns over funding is addressed in the Agency's proposed funding decision, which is presented in Part IV of this Final EIS.

The second category of public comments involves two issues which were raised by several respondents, and which indicated fundamental disagreement with one of the major conclusions of the Draft EIS. These are the first two issues discussed below: impacts on drinking water (issue 1); and adequacy of the socio-economic impact analysis (issue 2). The remaining comments which require a response were all directed at specific statements. EPA's responses to these comments have been grouped according to subject matter (e.g. all comments and responses on water quality are presented together), and are provided below beginning with issue 3. The source(s) of each comment is identified either by the name of the person who presented the comment at the Public Hearing, or by the control number of the letter which contained the comment. The author of each letter having a given control number is provided in Table II-1. Part III of the Final EIS contains two pages of the Draft EIS which were substantially modified in response to comments received, and three pages of new material. Minor editorial changes are noted in a list of Errata beginning on p III-1.

TABLE II-1. GENERAL COMMENTS ON THE DRAFT EIS

This table organizes and summarizes general comments on the Draft EIS (not requiring a response) and comments which presented recommendations regarding the alternatives which TWSD should select and/or EPA should fund. Specific technical comments on EIS content which required responses generally are not summarized here, but are presented in Section II-D of the text. Part 1 of the Table reviews comments received at the Public Hearing; Part 2 presents comments received from government agencies which have a formal role in EIS review; and Part 3 presents comments expressed by the general public in letter form. Within each part, comments supporting a particular alternative are grouped together. Many individuals self-identified their affiliations or interests in the project; in such cases, the self-identifications are given in parenthesis after the individual's name. Appendix B to the Final EIS contains the Public Hearing Transcript and copies of all letters received; see page II-2 for a list of repositories where Appendix B is on file. The letters are assigned a sequential number, or control number, beginning with 1 for the first letter in the Appendix. Control numbers for each letter are indicated in brackets for each entry contained in Parts 2 and 3 of this Table.

1. PUBLIC HEARING: OCTOBER 20, 1981; TAOS, NEW MEXICO

A. DO NOT SUPPORT ANY FUNDING FOR NEW TREATMENT FACILITIES

Frequently Cited Comments:

Object to large-scale growth and the pollution potential associated with it; the consensus agreement of the CAC was not followed; large-scale growth does not benefit the native population; a detailed study of the impacts on downstream residents is needed.

Additional Comments:

Object to tax dollars being spent on cleaning the river when private industry is the main cause of pollution.

Respondents

CAC Members: Ronald Oest, James Levy, Larry Frank, Fabiola D. Teter
Committee to Save the Rio Hondo Members: Grove Burnett (attorney), Phaedra Greenwood Levy, Alfred Trujillo
Local Residents: Isabelle Trujillo Aragon, Maria Lugones, Sylvia Rodriguez

B. SUPPORT FUNDING FOR 95,000 GPD PLANT

Frequently Cited Comments:

Will provide the cleanest water; will allow for economic growth/more jobs in area; will allow for a safety margin in plant operation.

Additional Comments:

Will allow for development of the tourist industry which is a clean industry that is not offensive to the local culture; will allow more control over waste by permitting the elimination of septic tank systems; using the sewage effluent for winter snowmaking at TSV would store water needed for agriculture in the spring; will eliminate the need to build a larger plant later.

Respondents:

Representative for Harrison Schmitt: Ted Martinez
Local Businessmen: Barry Holfelder, Mike Rice, Robert Garcia, Franz Voller
Local Residents: Rick Tejada (TSV investor), Jean Mayer (TSV employee), Ashley Pond, M.D., John W. Ramming, William Burke, Ernest R. Romero
Additional: Ben Goodin (Kayaker), Daniel T. Kraybill, Charles Kleiner

C. SUPPORT FUNDING FOR 80,000 GPD PLANT

Comments:

Will provide enough capacity to maintain the quality of the river; will provide for natural growth; represents the consensus agreement of the CAC, which in turn represents the public.

Respondents:

Local Resident: Geoff Bryce

D. ADDITIONAL SPEAKERS

Comments on Hacienda de San Roberto:

It is inconsistent for EPA to consider TWSD's project and to deny the permit for the Hacienda de San Roberto Project which was going to discharge an equivalent effluent in the river, with the owners paying for all costs.

Respondent:

Project Manager for Hacienda de San Roberto: John B. Sanger

Other Comments:

Need to preserve the environment; afraid a new sewage plant may pollute the area; historically the Rio Hondo was pure; the downstream people have prior rights to the water and rights to clean water.

Respondents:

Taos Pueblo Representative: Paul Bernal
Local Residents: Catherine Padilla, Carolina R. Dominguez

2. GOVERNMENT AGENCY REVIEW

A. SUPPORT FUNDING OF A TWINING PLANT (capacity not specified)

New Mexico State Agencies:

Agriculture Department, Charles H. Greene, Acting Director; Santa Fe, New Mexico [1]
Commerce and Industry Department, Patricia A. Romero, Assistant Secretary of Commerce and Industry; Santa Fe, New Mexico [2]
Game and Fish Department, G. Gater, Chief, Planning; Santa Fe, New Mexico [3]

B. SUPPORT FUNDING WITH RECOMMENDATIONS OR COMMENTS (for each agency, comments requiring responses are given in Section II-D)

New Mexico State Agencies:

Environmental Improvement Division, Martin S. Castillo, Environmental Review Coordinator; Santa Fe, New Mexico [4]
Comment: provided that a hookup policy limiting the rate of development is incorporated and enforced (see also Part IV of Final EIS)

Historic Preservation Bureau, DFA, Thomas W. Merlan, State Historic Preservation Officer; Santa Fe, New Mexico [5]
Comment: provided that one of the proposed alternatives is selected and only a few dozen feet of new sewer line are installed.

Natural Resources Department, Bill Isaacs, SRAP Bureau Chief; Santa Fe, New Mexico [6]
Water Resources Division, Philip Mutz, Interstate Stream Engineer; Santa Fe, New Mexico [7]

Federal Agencies:

United States Department of Agriculture, Carson National Forest, Jack Crellin, Forest Supervisor; Taos, New Mexico [8]

C. NO COMMENT

Federal Agencies:

Department of Health and Human Services, Frank S. Lisella, Chief, Environmental Affairs Group, Environmental Health Services Division, Center for Environmental Health; Atlanta, Georgia [9]
Department of Housing and Urban Development, Fort Worth Regional Office, Victor J. Hancock, Environmental Clearance Officer; Fort Worth, Texas [10]

D. REVIEW WITH COMMENTS, NO ACTION SPECIFIED (for each agency, comments requiring responses are given in Section II-D)

New Mexico State Agencies:

Cultural Properties Review Committee, Curtis Schaafsma, State Archaeologist; Santa Fe, New Mexico [11]

Federal Agencies:

United States Department of Agriculture, Soil Conservation Service, Ray T. Margo, Jr., State Conservationist; Albuquerque, New Mexico [12]
United States Department of the Interior, Office of the Secretary, Raymond P. Churan, Regional Environmental Officer; Albuquerque, New Mexico [13]

3. PUBLIC REVIEW

A. SUPPORT FUNDING FOR NEW PLANT (no distinction between 95,000 or 80,000 gpd capacity)

Frequently Cited Comments:

A new plant will be beneficial to the community and economy; will provide jobs; will encourage tourism/clean industry; will provide water-quality control; the present system is overloaded and a new plant would provide adequate capacity; the controversy over growth should not prevent construction of a new plant which will protect the water quality of the Rio Hondo; funding approval should be given soon; TSV benefits the entire community.

Additional Comments:

Taos Ski Valley should be able to accommodate the skiers; delay of the plant's improvement will cause more expense, hardship, and pollution; will prevent TSV from closing due to inadequate sanitation; will avoid problems encountered with other public facilities from the lack of foresight to provide for natural growth; by limiting the number of new hook-ups, the new plant should never have to run over design capacity; Ernie Blake has the area's best interest at heart.

Respondents:

Organizations: Hondo Lodge [14]

Individuals (organized by mailing address):

Taos: Margie Armijo [15]; Charles E. Barba [16]; David F. Polson [17]; Ashley Pond III, M.D. [18]; John A. Randall [19]; Carmen Rodzj [20]; Dan Salter D.D.S. [21]; Michael Paco Santistevan [22]; Dusty Vallo [23]; William D. Vickers [24]; Annette Vigil [25]

Albuquerque: Gary Armstrong [26]; Larry Delisi [27]; James T. McGuckin, M.D. [28]

Out-of-State: Richard Schuster (Los Angeles, CA) [29]; Wolfgang Lert (San Francisco, CA) [30]; Charles E. McCarthy (Demarest, NJ) [31]; Harry G. McNeely (St. Paul, MN) [32]; Mark P. Bratton (Corpus Cristi, TX) [33]; John Marse (Plainview, TX) [34]; Stephen Kaufman (no address) [35]

B. SUPPORT FUNDING FOR 95,000 GPD PLANT

Frequently Cited Comments:

TSV is essential to Taos economy, business and tourism; will benefit the ski industry which is a clean recreational activity; TSV provides a much needed winter economic boost; there is no environmental reason not to build the larger plant; will have less adverse environmental impacts than other alternatives and at a lower cost; will not harm local culture; will protect health; will correct current water-quality problems; offers the best protection for the water quality of the river; if the larger plant is not built, independent systems will be built and will create a greater health hazard downstream; will allow elimination of existing on-site systems; the downstream environmental problems are attributable to mismanagement in the lower valley (independent sewage systems and livestock waste) rather than existing or proposed disposal plants; the controversy over growth should not prevent construction of a new plant which would protect the water quality of the Rio Hondo; growth cannot be controlled by limiting the capacity of the plant; TSV, Inc. is interested in controlling growth and in protecting the environment; will provide for some growth which is inevitable; people who oppose the plant are in the minority; construction should begin as soon as possible, delay will increase water-quality problems and add to final cost; Twining deserves federal funding; this area has been selected for multi-purpose use and should not be restricted but planned to minimize environmental impacts.

Additional Comments:

Any adverse impact on TSV's ability to provide for growth or the quality of the skier's experience will directly affect all of the ski areas in the state; skiers spend twice as much money as other seasonal visitors; the government will benefit from an increased tax base; TSV visitors provide support for Holy Cross Hospital; TSV has provided athletic opportunities for many young people; the additional capacity will provide a safety margin and facilitate better community planning; environmental benefits outweigh the adverse impacts; the plan addresses the needs of TSV as well as downstream residents; increased overnight accommodation in Twining would reduce traffic on the road to Taos; TSV has been a political scapegoat; Twining previously made an error by not installing an adequate plant in 1965-66; trust in Ernie Blake's judgement; people who oppose the plant are making TWSD spend money on court cases that should be spent to improve the system; TWSD should not be placed in the position of needing to encourage tie-ons in order to fund the plant, this would have an adverse impact on growth.

Respondents:

Organizations: The Kandahar [36]; Ace Service Corporation [37]; Piper Tour & Travel [38]; Sierra del Sol Condominium Association [39]; Solar Homes Inc. [40]; Taos Chamber of Commerce [41]; Town of Taos [42]; Taos Lodgers and Restaurant Association [43]; University of New Mexico, Department of Intercollegiate Athletics-Skiing (petition with 18 signatures) [44]

Individuals (organized by mailing address):

Taos:	Arthur B. Adair (Clay & Fiber Gallery) [45]; Jon Admire (Ace Chevron) [46]; Jonathan Admire (Brown & Partners) [47]; Charles W. Anderson, M.D. (Taos Clinic for Children and Youth) [48]; Chilton Anderson [49]; Edythe Anderson [50]; Juan A. Aragon [51]; Luz Aragon [52]; Mary Fran Aragon [53]; Ed Baca [54]; John Batio [55]; Herbert Block [56]; Gail Bond (The Final Touch) [57]; H. Benton Bond [58]; Marc Boudart (Licensed General Contractor) [59]; James M. Brandenburg [60]; Robert J. Butler (First Baptist Church of Taos) [61]; D.B. Cottam (Harper Motor Co.) [62]; Jeffery H. Cottam (Harper Motor Co.) [63]; Brian Dehay [64]; Walter Diregg [65]; Dana L. Dumont (Casa de Taos Realty) [66]; Barbara Ertel (Avis Rent a Car System) [67]; Clark B. Funk (Don Fernando Book Shop) [68]; Bobby Garcia (Roberto's Restaurant) [69]; Alfred Gonzales (Don Pablo Gomez Restaurant) [70]; Fred J. Gonzales [71]; Imelda Gonzales [72]; Isabel Gonzales [73]; Nancy J. Gott [74]; Sarah Hamilton [75]; D.A. Henbest, O.D.PC. [76]; Gale W. Hughes, Jr. (South Side Texaco) [77]; Carter Isham [78]; David Jordan [79]; Calvin A. Loving (La Cocina de Taos) [80]; Manuel Martinez (TSV employee) [81]; Rosemary Mirand [82]; Dominic Mondragon [83]; Stephen Natelson (Natelson & Ross) [84]; Phil O. Ormerod (Deckerhoff's Printers and Stationers) [85]; Herb V. Rachelson, M.D. [86]; Ernest S. Romero (Centinel Bank of Taos) [87]; Susan Julia Ross (Natelson & Ross) [88]; Nancy N. Ruegg [89]; Gottfried A. Schuetz (Casa Cordova) [90]; David A. Sherer (Taos Art Gallery) [91]; John Smedly (Smedly's Real Estate) [92]; Mary Ann Trompler [93]; John A. Van Arsdale [94]; Walter E. Widmer [95]; Mr.& Mrs. Ken Winslow [96]; Kurt Ziebarth [97]
Taos Ski Valley:	Brownell Bergen [98]; Trisha Bergen [99]; Ernest H. Blake [100]; Michael H. Blake [101]; Robert Brierly [102]; Elisabeth Brownell [103]; Thomas R. Brownell [104]; Tony Bryan [105]; Randy Capitani [106]; A. Edwards - McGee [107]; Karin Frohlich (Frolic Skiwear) [108]; Alice M. Galanka [109]; Ken Gallard (The Third Eye) [110]; Cyndy Gimble (Don Pablo Gomez Restaurant) [111]; Henry Hornberger (TSV employee) [112]; Jim Isham (2 letters) [113, 114]; Charles B. Keykendall (Wildlife/Fisheries Biologist) [115]; Richard P. Kinkade [116]; Daniel T. Kraybill [117]; Sylvia Lamson & Chuck Ron [118]; Lily Lauro [119]; Marshall G. Martin (Owner of developed TSV property) [120]; Bernard Maya (Hotel Edelweiss) [121]; Roy A. Murray [122]; D. Pearl [123]; Franz Voller (Innsbruck Lodge) [124]
Taos Pueblo:	William T. Burke (Economic Development) [125]; Patricia Romero & Don J. Espinosa [126]
Arroyo Seco:	Connie Castillo Blake (La Paloma Realty) [127]; Peter Blake (La Paloma Realty) [128]; Milton Chase [129]; Mogens Hansen [130]; Bruce E. Johnson [131]; Carol Johnson [132]; Pierre Landry [133]; Dick & Karen Lunceford [134]; Andy Miera (TSV employee) [135]; Jose O. Rendon (TSV employee) [136]; Phil Sanchez (TSV employee) [137]; Ron C. Stoney (The Abominable Snowmansion) [138]; India Hatch [139]
Rancho de Taos:	Philip Archuleta (Trafton & Autry Printers, Inc.) [140]; Nancy Jenkins [141]
Des Montes:	Bruce Holthorne [142]
El Prado:	Clifford Chase [143]; Benjamin Goodin [144]; Eloy Montoya (TSV employee) [145]; Ernesto Montoya (Mutual of Omaha, Inc.) [146]
Amizette:	Lynn A. Leverett [147]
Vadito:	Lloyd Bolander [148]
Hondo Canyon:	Kurt Edelbrock (Kurt's Tennis Shop) [149]; Robert O. Moore [150]
San Cristobal:	Douglas Kaufman (Kaufman Construction, Inc.) [151]
Angel Fire:	William R. Burgess (The Angel Fire Corporation) [152]
Albuquerque:	George A. Brooks (UNM) [153]; Harold Brooks (Brooks Photo) [154]; John E. Brooks [155]; Mr.& Mrs. Allen B. Church (Kandahar Condominium) [156]; Stacy W. Gooch [157]; E. Gross [158]; William T. Hedger (Frank Thomas & Assoc.) [159]; Kaarlo & Nancy Jokela (Mountain Sports Ltd.) [160]; James L. Krone [161]; Thomas E. McCullough [162]; Robert J. Nordhaus (developer in Sandia Peak Ski & Tram areas) [163]; Hannes H. Parnegg [164]; Jan Rader (Kandahar unit owner) [165]; Ron L. Randel (Santa Fe Builders Supply Co.) [166]; R. Wayne Reynolds [167]; Stuart C. Sherman (part-time Taos resident) [168]; Klaus Weber (UNM) [169]
Santa Fe:	Ron Adams (Hand Graphics Ltd) [170]; Felice Ortiz Hill [171]; Stewart Hymans [172]; Dana E. Lesnett [173]; Kenneth P. Morris (Merrill Lynch) [174]; Paul B. Schmidt (former General Manager of TWSD) [175]; Louise Trigg [176]; Alan Wilson [177]; Andrea Ximenez [178]
Tesuque:	Marc Lord [179]
Mora:	John D. Martinez [180]
Los Alamos:	Y. Ellen Hong [181]
Las Cruces:	Raul C. Marquez (NMSU) [182]
California:	Jody Serra [183]; Shirley Gage [184]; Barry Gres [185]; Andrew E. Haas [186]; Dorinne Lee [187]; Julio Zelada [188]; Steve Littlejohn [189]; Jose Gomez [190]; Jean & Ludwig Reiche [191]; Roy G. Allenbach [192]
Colorado:	Herman L. Kretschmer, Jr. [193]; Frank C. Shorter (Frank Shorter Sports Wear) [194]; Ross B. Cone, M.D. [195]; Charles Adams (Ski Club Vail) [196]; Ray M. Azar (Vail Assoc., Inc., Beaver Creek Assoc., Inc.) [197]
Illinois:	Lester Crown (Material Service Corp.) [198]; Frank Levy (Graphics 360) [199]; Robert A. Margolis (Corroon & Black of Illinois, Inc.) [200]; Jay A. Pritzker (Hyatt Corp.) [201]; John D. Schwartz (Wildman, Harrold, Allen & Dixon) [202]; Alan Crane (Crane Carton Co.) [203]; Robert G. Haas (Haas & Ross) [204]; Albert H. MacLeod (property owner, Valdez) [205]
New York:	Mr. & Mrs. D. Wayne Fleming [206]; Bert Hutz [207]; Fred & Margaret Schick [208]
Ohio:	William E. Conway [209]; F. W. Neville [210]

Texas: Ellery G. Baker (Amarillo College) [211]; Donald L. Bird [212]; Sybal Hazel Brierley [213]; William Spencer [214]; Jim W. Walker (Kandahar Complex) [215]; J. W. Vaughn (Vaughn Farms) [216]; Suzanne Ellis Gonzalez [217]; Thomas M. Eisner (property owner in Des Montes) [218]; Don C. Quast, M.D.P.A. [219]

Other States: Dr. & Mrs. Phil Matter (Arizona) [220]; J. R. Bradley, M.D. (Kansas, Kandahar Condo) [221]; J.C. Waldorf, M.D. (Kansas) [222]; M.H. Waldorf Jr., M.D. (Kansas, Kandahar Condo) [223]; Bert Weil (Michigan) [224]; Douglas A. Riddel (Missouri) [225]; Rudolph L. Bloch, M.A. (New Jersey, Kandahar Condo) [226]

Non-U.S. : Benny Guggenheim, Switzerland [227]

C. SUPPORT FUNDING FOR 80,000 GPD PLANT - UNDER THE TERMS OF THE CAC RECOMMENDATION

Frequently Cited Comments:

If the plant is funded, the clauses of the consensus agreement must be strictly enforced [200]; it allows for reasonable growth; the consensus agreement would take care of stream pollution and protect the environment of Twining and downstream communities; TWSD has not shown itself to be a responsible entity, and the agreement would provide assurance that water-quality standards are met; the agreement provides downstream residents with a means of overseeing development in the Hondo watershed.

Additional Comments:

Neither the plant nor the ski basin facilities should be expanded until there is a functioning plant in place that can demonstrate a season or two of compliance with state and federal water-quality standards; the skier limit of 4,000 is not an effective limit on sewage flows; the consensus agreement is based on the findings of the EIS; the 95,000 gpd plant is 20-30% smaller than originally proposed but with water conservation measures, it allows the district to meet the needs of several different groups; the CAC consensus which recommends an 80,000 gpd plant later expandable to 95,000 gpd represents the complete, comprehensive approach to current and long-range planning that is needed for the district and community; people who want faster growth and more skiers should pay for it themselves.

Respondents:

Organization: American Citizens Together [228]

Individuals: Charles G. Bryce [229]; Charlie Kleiner [230]; Lisa Harner [231]; Ronald F. Oest [232]; Patricia O'Connor [233]

D. DO NOT SUPPORT ANY FUNDING

Frequently Cited Comments:

Will create adverse environmental effects; the NPDES permit must incorporate the provisions of the consensus agreement, particularly the hook-up policy; natural growth must be provided for and the culture of the downstream communities must be preserved; TWSD has not shown itself to be a responsible entity in dealing with the community, and does not deserve federal funds.

Additional Comments:

The facility decision was based on an incomplete EIS, which did not adequately address impacts on downstream communities. Only certain groups benefit from growth in TSV; the EIS contains irrelevant information; growth is a human decision, it is not inevitable and should not be supported; providing for growth is providing opportunities for the rich to get richer; to control growth, wastewater decisions must be accompanied by planning decisions; TSV is a private enterprise and should not receive public funds.

Respondents: Maria Lugones [234], Sylvia Rodriguez [235], Lynnea C. Salvo [236], Phil Vardalos [237], Andres S. Vargas [238]

E. PETITION TO CONDUCT A DETAILED SOCIO-ECONOMIC STUDY OF THE IMPACT ON DOWNRIVER COMMUNITIES

Comment:

The petition demanded that the Forest Service, EPA, EID, TWSD, and CAC undertake a full-scale, carefully designed study to assess the social, economic and cultural impact that TSV has already had as well as the projected impact of future growth on the socio-economic condition and cultural survival of native downriver residents, including a democratic, house-to-house survey of downriver communities.

Respondents:

Submitted by Fabiola Teter and signed by 301 people, mainly local residents [239]

F. AFFIDAVITS REGARDING THE DOMESTIC USE OF RIO HONDO WATER

Comment:

20 affidavits stating that the Rio Hondo is their family's only source of water and that it is used for all domestic purposes including drinking, bathing and washing. Another affidavit stated that several more families in Valdez use the water in the winter when their pipes freeze, during the summer while working in the fields, that children play in the water, and that when the old pump for the water system breaks down, the Rio Hondo water will be used until a new pump is installed.

Respondents:

Submitted by Maria Lugones and signed by 21 residents of downstream communities [240]

ISSUE 1. DOMESTIC USE OF RIO HONDO WATER. Just prior to the Public Hearing on the Draft EIS, EID rejected a proposed wastewater discharge in the Valdez area because of adverse impacts on the drinking water supplies of local residents. Several comments received at the hearing and in writing expressed concern that this impact was not addressed in the Draft EIS. It was stated that a survey should have been conducted to identify the downstream domestic uses of Rio Hondo water. (Testimony of Maria Lugones, Faby Teter, Grove Burnett, John Sanger and Sylvia Rodriguez; comment letters 234, 238) In addition, refer to Comment F in Part 3 of Table II-1, which discusses affidavits from downstream residents who use the Rio Hondo as their sole source of drinking water, or a supplemental supply when the water system breaks down.

Response to Issue 1. Early in the planning process, the CAC, which included respresentatives of downstream water users, informed the EIS consultants that some residents used the water for domestic purposes (see p 6-25 of the Draft EIS). To analyze impacts it was sufficient to know that some families used this water; it was not necessary to document the number or identify the individuals affected. An extensive effort was made to uncover any evidence of public health problems in the Rio Hondo Valley which might be attributable to Twining's discharge. The problems identified were limited to persons who utilize undisinfected water and are no different from the health hazards generally found from such water supplies (see p 6-20, C-5 and C-18 of the Draft EIS).

The potential for wastewater-related pathogens to adversely impact drinking water supplies depends on several factors, including: 1) disinfection of the wastewater; 2) die-off of organisms (which increases with time and distance of travel); and 3) disinfection of the drinking water. Time and distance are important because, once released from the warm body environment, pathogens usually die-off within hours or days. Also, they may be removed from the water by attacning to sediment. Figure 6-4, on p 6-18 and 6-19 of the Draft EIS, clearly shows the importance of die-off in the Rio Hondo. Even during periods of excessive coliform discharge from the TWSD plant, coliform concentrations in the River are equal to background (natural) levels at the mountain front. Thus, the impact of TWSD discharge on drinking water in Valdez would be small even under conditions of permit violation. In contrast, the facility in Valdez which was not approved by EID would have discharged directly above the drinking water users of the Hondo Valley. There would be minimal potential for die-off, and a much greater impact on the users. Objections to direct recycling are explained on p 6-28 of the Draft EIS; the proposed Valdez area discharge would nave been an example of direct recycling.

Although direct impacts on drinking water would not be expected from Twining's discharge, it is still a mandatory requirement that TWSD accomplish adequate disinfection. Chlorination is the standard disinfection method, is currently used at Twining, and if continued, could meet permit standards. However, chlorine has some adverse effects on aquatic biology and, also, it has only moderate effectiveness against some pathogen types, such as viruses and cysts. In contrast, ozone is very effective against all pathogens and

does not have adverse effects on stream biology. Although it is more costly than chlorine, ozone disinfection was selected as the preferred alternative specifically because it would provide an added margin of safety in protecting downstream drinking water uses (see p I-6, 5-35 and 6-29 of the Draft EIS). The use of lime precipitation and sand filtration, while primarily for phosphorus removal, will provide considerable additional removal of pathogens.

It is important that those who use the Rio Hondo or any other water source that is not disinfected, realize that there are public health risks associated with such a use. The stream standards designed to protect the Rio Hondo as a drinking-water source recognize that the water should be disinfected prior to use (see p 4-1, 6-11, 6-20 and C-5 of the Draft EIS). Furthermore, the river is designated only for secondary contact recreation, that is 'water use in which contact with the water is either incidental or accidental and in which the probability of ingesting appreciable quantities of water is minimal'. Standards for the river are not intended to protect it for swimming; even with a zero discharge from TWSD, the river would be poorly suited for drinking water because of natural contamination (wildlife), and the effect of animal wastes and cesspools (see Appendix C.5 of the Draft EIS).

ISSUE 2: SOCIO-ECONOMIC ANALYSIS. This topic is addressed in section 5.3, 6.6, and Appendix D of the Draft EIS. Public comments focused on the concern that the Draft EIS did not adequately assess the secondary impacts of Taos Ski Valley's growth on residents of the Rio Hondo Watershed. Specifically, it was felt that a more detailed analysis was needed of the impact on the economic, social and cultural patterns of downriver communities. (Testimony of Grove Burnett, Sylvia Rodriguez, and Faby Teter; comment letters 229, 234) A petition was submitted by Faby Teter and signed by 301 people, mainly local residents, demanding that the Forest Service, EPA, EID, TWSD and CAC undertake a full-scale, carefully designed study to assess the social, economic, and cultural impact that TSV has already had as well as the projected impact of future growth on the socio-economic condition and cultural survival of native downriver residents, including a democratic, house-to-house survey of downriver communities.

In addition to these comments, one written communication from Sylvia Rodriguez (letter 235) presented several specific criticisms of the Draft EIS. She felt that the analysis should have included a study of local demographic changes since 1960; a study of land and associated water rights, ownership and use; a study of the history and economics of real estate development in the watershed since 1960 and how these changes related to the expansion of Taos Ski Valley; and a house to house data and opinion survey of downriver communities. Ms. Rodriguez also stated that:

1) the Draft EIS should have mentioned that the census shows a 20 percent drop in the county's Spanish population between 1970 and 1980;

2) the land price analysis (Draft EIS Appendix D.4) is incompetent because it assessed current land values and did not assess the value of irrigated land;

3) EIS discussions of the difficulty of measuring social change and what in this case would constitute an adequate and appropriate social impact study (Draft EIS p 6-66 and 6-67) are simply inaccurate and ill-informed;

4) the consultants are not qualified to conduct social-economic studies;

5) the EIS characterizes the no or less growth position as essentially atavistic and static. The issue is not 'no-growth-no-change-return-to-the frozen past' vs. 'progress-and-hence-economic development'. Rather it is a question of differential growth; and

6) in a fragile ecosystem with a limited carrying capacity, all resources and growth potential should not be allocated now to private outside interests who can afford to finance rapid development; an equitable portion of the capacity should be reserved to allow for the natural growth of the downriver communities, and for future development needs of the inhabitants.

A letter from Maria Lugones commented that the Draft EIS presented the growth in Twining as inevitable whereas it is not inevitable but rather the result of human decision. (letter 234)

Response to Issue 2. The conflict is primarily one of scope. The socio-economic analysis presented in the Draft EIS was conducted at the level of detail appropriate to the decision which faces EPA: whether or not to fund wastewater treatment facilities in Twining. Thus, the analysis concentrated on identification and characterization of those impacts which could result from an EPA action for or against the funding of TWSD faclities. EPA recognized strong public interest in the larger land use and develoment issues facing the region. However, EPA cannot develop local land use plans and policies for Taos County, the Rio Hondo watershed, and the ski valley resort complex. A detailed socio-economic study of the type proposed by several respondents would be appropriate to decisions such as adoption of a local zoning code, but was not necessary to EPA's review of Twining's proposal to seek funding for a new treatment facility.

The major findings of the Draft EIS that are relevant to EPA's decisions are: 1) that for growth of the magnitude being discussed in Twining, impacts are relatively small and difficult to isolate from the many factors which are influencing the regional development of the Taos area, but are nonetheless significant and potentially adverse to at least part of the community; and 2) even more to the point, growth and growth impacts are similar, and in some cases identical, from all of the most feasible alternatives being considered by TWSD.

The impact of Twining's growth on downstream communities is discussed in sections 5.3, 6.6 and Appendix D. These sections make it clear that: there are many causes of change in these communities; projected growth in Twining would contribute to such change in a comparatively small way which, while difficult to isolate, is certainly important; and from the perspective of much

of the affected population, the changes are serious and adverse. Many of the major economic and physical changes are quantified in the EIS (see especially Table 5-6); others, especially cultural impacts, are expressed in qualitative terms. From the analysis, EPA concludes that any funding decision which would promote growth that would otherwise not occur could have adverse environmental impacts on downstream communities. A more detailed analysis of such impacts might be appropriate if EPA had to choose between promoting and preventing growth, or had an ability to determine the amount of growth which will occur.

A major emphasis in the Draft EIS was to determine the relationship between Twining's growth (hence environmental impact on downstream communities) and Twining's wastewater treatment (possibly involving federal funds). No relationship was found. Certainly, growth has impacts; and the history of inadequate wastewater treatment has had impacts. But all the information now available indicates that wastewater-related impacts can be reduced to acceptable levels (as measured by effluent and stream standards), and that growth and growth impacts will occur independent of the wastewater management decisions which are now being considered.

The Draft EIS provides an extensive discussion of potential barriers to growth, related both to wastewater management and other factors (see Draft EIS section 5.3.2). While many area residents resist development in Twining, these sentiments have yet to result in any constraints on growth in the form of land use regulations or zoning. The only clearly effective barrier is the need to protect the water quality of the Rio Hondo. The nature of the wasteload allocations indicates that this barrier may prevent wastewater discharges greater than 95,000 gpd from within TWSD, unless and until the wastewater receives very advanced treatment and/or nonpoint source pollution is reduced. In effect, then, federal and state water-quality regulations represent the only human decisions yet made which may restrict growth in the Twining area. Some who desire less growth (or at least restrictions on the rate of growth) believe that denial of federal funds may represent an additional barrier, especially when compared to the development which would occur if funds are available.

However, there are strong economic incentives favoring growth in the Twining area, indicating that at least some development will occur with or without EPA involvement in project funding. This finding is consistent with all the evaluations contained in the Draft EIS, and with all specific information obtained through public input. Possibly such development would benefit from a central treatment plant. Indeed, the TWSD has indicated that growth and new hookups could be encouraged as a means of financing a new plant. But, given that Twining must develop some new facilities to solve existing pollution problems, the costs of expanding treatment capacity from that needed to serve the present base area (80,000 gpd) to that allowed by the wasteload allocations (95,000) is comparatively small. It is likely that the larger facility would be built regardless of federal funding decisions. But even if the costs of an enlarged plant do prove to be a barrier, growth would not be curtailed; rather existing TWSD residents would have to build a new plant to serve existing development, while new growth could occur using

on-site systems. This approach was illustrated by the Ski Solar Taos proposal discussed on p 5-40 and 5-42 of the Draft EIS; that project would construct condominiums which would be served by an independent advanced wastewater treatment plant.

In summary, the wastewater management alternatives are restricted by the wasteload allocations to sizes which are almost certainly within the economic reach of the TWSD, or of TWSD landowners, either through construction of a self-funded central plant, or through use of independent on-site systems. Thus, at the scales being considered, the growth potential of the resort complex is not dependent on the presence or absence of federal funding for a new treatment facility. EPA's choice is not expected to determine the amount of growth which will occur, and the need for a more detailed socio-economic analysis is not indicated. The following paragraphs respond to specific questions about the socio-economic component of the Draft EIS.

The need for a house-to-house survey was considered during the preparation of the EIS. However, it was determined that the data supplied in the public meetings provided the input necessary for the analysis. The opinion of downstream residents on the issue of growth was clearly presented in these meetings. The house-to-house survey would have further documented and quantified this information but it would not have added to the study or changed the conclusions about adverse impacts related to TWSD expansion.

The analysis did consider the 1980 reported ethnicity figure, which on the surface indicates a 20 percent decrease in the Hispanic population when compared to 1970. However, an accurate estimate of the change in the Hispanic population can not be derived from a comparison of 1970 and 1980 census data. The methodology used to determine ethnicity is different in the two reports. In 1970, figures were based on a definition of Spanish surname and language. In 1980, people were asked to report their ethnic origin. In the same year this would result in different figures.

The point of the land values analysis presented in Appendix D was to identify the impact that the ski resort complex has had on land values. The methodology used is appropriate. As described in the Appendix, if the resort has an impact on land values, values would be higher near Twining than for equivalent properties elsewhere. In fact, it was determined that the proximity to the ski resort did result in an increased land value in the Valdez/Arroyo Seco area and had an even greater impact on land in Twining and Amizette. The land values question illustrates the scope of the EIS. The evaluation that was made was sufficient to determine that there may be adverse impacts on the ability of local people to remain in the region. Local land use planning decisions could certainly benefit from more information on this subject, and the interest in more data is understandable. However, more research regarding land values could not influence EPA's decision because, as discussed previously, the growth potential of the resort complex is not dependent on EPA funding. Consequently, a further study was not performed.

The value of irrigated land was considered in the land values analysis and showed a similar trend to that of non-irrigated land. However it was not included in Table D-1 since the data were less firm. The value of irrigated land is dependent on several factors; it was not necessary for the scope of this study to isolate and separate out these other factors, since the comparison of non-irrigated land itself clearly showed that the Taos Ski Valley did impact area land values.

The discussion on Draft EIS p 6-66 and 6-67 points out that it is not possible to accurately quantify all aspects of cultural change in the area and to isolate the role played by each factor. Change has been ongoing for centuries and began to accelerate nearly 40 years ago; social and economic data contemporary to these changes are extremely limited. Interviews by themselves would identify attitudes and opinions, but not rigorous cause-effect data on, for example, the relationship between the annual skier visitation at TSV and the emigration of natives.

This does not mean that some elements of the change cannot be documented - they can, as examples in the Draft EIS indicate. It also does not mean that the analysis in the Draft EIS would be adequate for local land use planning decisions (see discussion above). To develop a community plan capable of political acceptance would require extensive information and evaluation of tradeoffs which would result from different growth management strategies. Such information is not required where the decision is one of supporting or not supporting new facilities for clean water, and where the growth associated with such facilities is virtually identical to the growth without the facilities.

With regard to the preparers' professional qualifications (Rodriguez specific comment 4), it was recognized at the onset of the project that socio-economic issues would be an important part of the EIS. Accordingly, the team selected to prepare the EIS was chosen with these needs in mind. A list of the preparers, their education and experience is presented in Chapter 8 of the Draft EIS. Not reflected in the table is the fact that the preparers of the socio-economic component of the study (Diane Flock, Karen Lyncoln, Carole Cristiano and Lee Wilson) have extensive experience in conducting socio-economic analysis for numerous environmental assessments and related studies, and specifically have studied the socio-economic situation in Taos in previous work.

EPA disagrees with the characterization of the Draft EIS given in Rodriguez comment 5; the document clearly indicates that the two major philosophies to growth have many subtle, complex elements and are neither simple nor extreme positions.

The allocation of all wasteload carrying capacity to Twining is intended to protect the river against the discharges of other entitites. Considerable capacity will remain in the downstream Rio Hondo, and it can be allocated only through future discharge permits which are open to public input.

The EIS also states that growth can be controlled. The emphasis is that while a smaller plant would not facilitate growth, it also would not halt growth. Only local action can accomplish the objectives of those who wish to protect the cultural traditions and lifestyle of Taos.

ISSUE 3: WATER QUALITY. A number of specific water-quality issues were identified, primarily in written comments. In general these sought clarification about specific impacts or aspects of the analysis.

Issue 3a. With respect to land application, the EIS should more adequately evaluate the potential for adverse ground-water impacts in terms of soil characteristics and suitability, typical depths to ground water, prevailing irrigation practice and scheduling, storage problems, and nitrogen uptake of typical crops grown in the area. Because the alluvium is a significant aquifer in the area and apparently has fairly high permeability, the need for monitoring land application effects should be addressed. (letter 13)

Response to Issue 3a. Land application was eliminated in the initial screening because this alternative requires cooperation between TWSD and downstream farmers, which can not be assured (see Draft EIS p 5-12). Therefore, an in-depth analysis of land application is not justified for this EIS. A sentence regarding the need for monitoring has been added to the discussion of land application in Table 5-1 (p 5-3a) of the Draft EIS. This added sentence is presented in the Errata section of the Final EIS.

Issue 3b. The EIS should address the impact of pollution of the Upper Rio Hondo on the lower portion of the stream. (letter 233)

Response to Issue 3b. The impacts of pollution on the Rio Hondo, throughout the length of the river, are discussed in Draft EIS sections 6.2.2, 6.4.1, and Appendix C.4. If such pollution continues to occur, either because of discharge of inadequately treated sewage or because of increases in nonpoint-source pollution, then the stream ecology would continue to suffer adverse impacts, perhaps to the point that the stream ecology would not recover to high-quality conditions (see Draft EIS p 6-39). The purpose of the proposed new treatment facilities is to ensure that sewage is properly treated prior to discharge in order that the river will not be adversely impacted. Note that the effluent limitations for the proposed discharge permit are calculated to protect the river at low flows at the point of discharge (see Draft EIS sections 5.3.2, 6.2.2 and Appendix B.4). Thus, the river would be well protected at higher flows and further downstream.

Issue 3c. Page 4-1 of the Draft EIS implies that the pollution of the Rio Hondo by TWSD was common only through the early, middle and late 70's, yet the most recent violations were this year. (letter 228).

Response to Issue 3c. The history of violations of stream standards is discussed on p 4-1 and 4-4 and in Appendix A.4 of the Draft EIS. The more

recent violations, which occurred after efforts to correct the problems experienced in the 70's, are discussed on p 4-4 and in the Appendix.

Issue 3d. Any plant for Twining should be designed to abate and prevent pollution of the Rio Hondo and to maintain high stream standards (letter 42).

Response to Issue 3d. This is a mandatory objective which TWSD must meet irrespective of any EPA decision on funding.

Issue 3e. If the existing facility must be shut down during construction of a new plant or rehabilitation of the old plant, raw sewage should be stored until it can be adequately treated prior to discharge. (letter 13)

Response to Issue 3e. Construction will occur during the summer when the flows are low; the engineer indicates that adequate storage and treatment can be provided by phased construction during the summer season. There will be no need to bypass or store raw sewage.

Issue 3f. The Final EIS should evaluate whether additional storage capacity is desirable to provide temporary storage of peak flows in excess of plant treatment capacity, as well as flows which otherwise might be by-passed in the event of a system failure. Temporary storage of sewage could prevent periodic violations of stream water-quality standards during low stream flows. (letter 13)

Response to Issue 3f. This evaluation was provided on p B-3 of the Draft EIS. Seven-day storage in excess of plant capacity will be provided.

Issue 3g. With a larger plant, what is the potential for irrigation waters from the Rio Hondo to adversely impact croplands, particularly in light of TWSD's frequent violations in the past? (letter 12)

Response to Issue 3g. The plant would be designed to meet stream standards, which in turn are intended to prevent harm to agriculture. Analysis of soil samples from irrigated land along the Rio Hondo revealed that despite past violations there is nothing in the water which would not normally be found in irrigation waters and that the use of the Rio Hondo for irrigation has not harmed the land (see Draft EIS p C-6). If operated within permit limits, the proposed 95,000 gpd plant would pose no threat to irrigated agriculture.

Issue 3h. What are the cost savings of not removing (or removing less) phosphorus during periods of lower plant flows and higher river flows and what would be the environmental effect? (letter 230)

Response to Issue 3h. See Draft EIS p 6-14. Specific cost savings were not estimated, but the reason for issuing a seasonal permit is that it decreases the costs of treatment by reducing treatment requirements during less critical months. The several phosphorus concentration limits in the permit (see Table 4-1 of Draft EIS) are all calculated to ensure that the

stream phosphorus concentration will stay within 0.1 mg/l in all seasons. In turn, the stream standard of 0.1 mg/l was established in the belief that this level would protect the stream environment.

Issue 3i. Would the above action (seasonal differences in phosphorus removal) result in the loss of an added disinfection step? (letter 230)

Response to Issue 3i. Yes, the lime treatment used to remove phosphorus does also remove pathogens. During periods of no phosphorus removal this added disinfection step will not occur. However, primary disinfection under alternative 1 is by ozonation. Ozone is a very effective means of disinfection, and standards for pathogen removal should be met whether or not lime treatment is used.

Issue 3j. How do decreases in phosphorus in the river, below the stream standard, affect the river? (letter 230)

Response to Issue 3j. Note that, on the average, phosphorus concentrations in the Rio Hondo are well below the stream standard (see Figure 6-4 of the Draft EIS). The low levels of phosphorus present in natural runoff are sufficient to maintain a healthy stream ecology. Within a small range, an increase in phosphorus levels increases stream productivity. But past a certain level, higher phosphorus levels contribute to problems such as nuisance algae and lowered dissolved oxygen levels (with ill effects on fish). The stream standard of 0.1 mg/l for phosphorus is believed to be the maximum concentration allowable before such problems occur. The future decreases of phosphorus discussed in the Draft EIS are meant to bring phosphorus concentrations within the 0.1 mg/l limit at all times. It would be virtually impossible to lower phosphorus concentrations to the point that there would be a deficiency.

Issue 3k. Do phosphorus concentrations have different effects during different seasons? (letter 230)

Response to Issue 3k. The primary difference between seasons is the type of algae which utilize the phosphorus.

Issue 3l. How does the approach of different standards affect the CAC consensus hookup policy which is keyed to phosphorus concentrations in the effluent yearround, rather than to phosphorus concentration or loadings in the stream? (letter 230)

Response to Issue 3l. The hookup formula would be solved for the period of most stringent treatment requirements when the effluent limit for phosphorus is 1.0 mg/l. Discharges of phosphorus above 1.0 mg/l during other months would not be considered in the formula, unless permit limits were violated.

Issue 3m. Wouldn't the potential for protection of the river be improved if all on-site systems were eliminated and the effluent treated at the central plant? (letter 230)

Response to Issue 3m. It is true that much better treatment would be given by the proposed treatment plant than by on-site systems. However, the wasteload allocation is based on the additive effects of nonpoint and point sources; reduction of nonpoint sources such as on-site systems would allow an increase in the discharge from the treatment plant. Overall, for parameters such as phosphorus, there would be no difference in water quality. However, more growth in Twining could occur if on-site systems were removed, which could increase the potential for contamination from other pollutants such as sediment; the growth would have all the other impacts described in Chapter 6, such as greater changes in air quality.

Issue 3n. With regard to using sewage effluent for snowmaking - Would it be better to have the phosphorus in the effluent enter the stream during the winter and be out of the system prior to irrigation, or would it be better to prevent the phosphorus from entering the stream during the winter, the period of low flow and perhaps lessen the "build-up/wash out effect"? (letters 230 and 236).

Response to Issue 3n. According to the worst case analysis presented on Draft EIS p 6-27, the snowmaking alternative might cause phosphorus levels to be exceeded for one or two months in the spring. This period would probably be long enough to allow for excessive growth of algae with resultant adverse impacts on the stream biota. On the other hand, the high flow rate of the river at this season might inhibit algae from settling out and growing on the stream bottom. If this were the case, there might in fact be some beneficial water quality impact from the snowmaking alternative. Clearly, a basic problem with this alternative is the uncertainty of its impacts, with the possibility that the impacts may be unacceptably adverse. Because of variabilty in melt conditions and runoff it would be very difficult to assure no violations of stream standards.

Issue 3o. Would freezing kill viruses in the effluent used for snowmaking? (letter 236)

Response to Issue 3o. The literature indicates that viruses can survive freezing.

Issue 3p. Any measures taken to improve or protect the water-supply quality of the Rio Hondo will almost certainly not save the indigenenous invertebrate fauna of this stream. Therefore, it is recommended that as a mitigating measure, an adjacent stream not currently impacted by development should be protected in order to preserve comparable fauna. (letter 6)

Response to Issue 3p. It is probably true that as long as there is human activity in the Rio Hondo Valley, the stream can not return to absolutely pristine conditions. However, it is not the opinion of those who have studied the stream ecology that the invertebrate population is "lost". While the invertebrate ecology suffers under low-flow, high-sewage conditions, it again recovers once conditions improve. Also, there is no

other stream in the area of comparable size and quality. While it may be desirable to choose another stream in the area for special protection, it is also desirable to protect the high quality of the Rio Hondo as much as is feasible. Construction of the proposed plant will enhance the quality of the stream ecology. Protection of other area streams should be addressed in the water-quality management planning program of the State of New Mexico.

ISSUE 4: WATER USE. Most comments on water use were directed at findings or analyses regarding the impact of Twining on the limited water resources of the Rio Hondo drainage basin.

Issue 4a. The Draft EIS did not adequately address the sewage effluent's potential as a resource. (letter 236)

Response to Issue 4a. The EIS considered several innovative treatment alternatives for productive use of sewage wastes: aquaculture, alternative 2; composting toilets/grey water recycling, alternative 4; storage/discharge (snowmaking), alternative 5; land application (irrigation), alternative 7; total recycling, alternative 13; black water recycling/detention of grey water, alternative 14; and aquaculture with snowmaking, alternative 15. These alternatives are discussed in section 5.2 and summarized in Table 5-1 of the Draft EIS. The innovative alternatives, generally, do not yet have a proven record of reliability, particularly in high-altitude, cold climates, and are for the most part very high cost systems. Their uncertainty is of special concern considering the long history of pollution in the Rio Hondo. Therefore, a system with proven reliability is needed.

Issue 4b. It is recommended that alternatives 6, 8, 9, 10, 11 and 14 be rejected because they would reduce the flows in the Rio Hondo. (letter 12)

Response to Issue 4b. These alternatives were eliminated in the initial screening. One factor in this decision was their impact on water rights.

Issue 4c. The consensus agreement will not offer substantive protection of existing downstream water rights. (letter 229).

Response to Issue 4c. Protection of water rights is provided by New Mexico's water laws, which are among the most extensive in the US, and which are fully enforced by the New Mexico State Engineer. The CAC recognized that the objectives of the consensus agreement were to focus on wastewater management matters; water rights were a major consideration in rejection of certain alternatives and would be an appropriate consideration in local growth-management decisions.

Issue 4d. An organization of all users of the Rio Hondo, should work out an equitable plan for usage of the Rio Hondo's water. This could include a policy of controlled development in TWSD, based on continued quality maintenance, as well as more efficient irrigation practices downstream. (letter 93)

Response to Issue 4d. The concept of a Rio Hondo watershed committee was part of the CAC recommendation; such an organization can be implemented effectively only through the cooperative efforts of all local interests.

Issue 4e. The discussion of the relationship between historic plant evapotranspiration and stream flow, should be revised to reflect the fact that there is no hard data available on basal area changes prior to 1963. (However, based on data since that time it is likely that increased plant evapotranspiration accounts for the bulk of the change in stream flow.) (letter 8)

Response to Issue 4e. The text has been revised to reflect this point, see Part III of this document, Errata for p C-3.

Issue 4f. Prior to funding a new plant, the water rights question should be addressed so that the rights of downstream water users not be impaired. (letter 42).

Response to Issue 4f. See response to 4d. Decisions with regard to impairment are the jurisdiction of the State Engineer and the Courts.

Issue 4g. Funding for the plant should be conditioned on the initiation of an active water conservation program at Taos Ski Valley. (letter 42).

Response to Issue 4g. The TWSD presently has a water conservation program and is expected to continue its activities since reductions in water use and return flows would allow more growth within the limits imposed by available water rights and the wasteload allocation.

Issue 4h. The text on Water Supply and Water Rights, Draft EIS section 6.2.4, should be revised to reflect comments provided by the New Mexico Water Rights Division. (letter 7).

Response to Issue 4h. The text has been revised to reflect these comments. Pages 6-24 and 6-25 of the Draft EIS have been revised to reflect these changes and to update information presented in the Draft EIS; the revised pages appear on p III-7 and III-8 of the Final EIS. For convenience, the following is a summary of the comments in letter 7 which led to changes in the Draft EIS.

Units of water use should be added to the first table on p 6-23.

The third paragraph on p 6-23 under Water Use and the last paragraph on p C-14 (continued on p C-15) attributes calculations of water diverted and consumed for snowmaking to the State Engineer Office. The State Engineer Office has made preliminary estimates of water consumed in snowmaking operations. The figures quoted in the report as to the amount of water used in snowmaking in 1980 were supplied by Taos Ski Valley. The State Engineer has made no final decision as to the amount of water required for snowmaking or the amount of water consumed.

The last sentence of the first full paragraph on p 6-24 should end with the word "watermaster" and the following language should be added to this paragraph. "By law, the majority of the water users must petition the State Engineer and agree to bear the cost of administration before a watermaster can be appointed. To date, this has not been done for the Rio Hondo watershed."

The third full paragraph on p 6-24 does not correctly describe the situation. It is suggested that the following language be added at the beginning of the paragraph: "On August 24, 1981, Twining Water and Sanitation District filed Application 3751 with the State Engineer to divert 200 AFY causing a consumptive use of 15 AFY for municipal, domestic, commercial and snowmaking purposes within the District and adjacent areas during the period November 1 through April 10 of each year. The District proposes to offset the 15 AFY stream depletion by release of their San Juan-Chama Project water. The application has been protested and the applicant has requested a hearing before the State Engineer."

Also, the second, third and fourth sentences of the third paragraph on p 6-24 should be revised to read as follows: "These parcels, which now remain in cultivation, are 10.9 acres and 1.7 acres and together have consumpitve use rights of 15.88 acre-feet of water per year. If it can be demonstrated to WRD that snowmaking is allowed by the existing Pattison permit, then consumptive use authorized under that permit would amount to 10.8 AFY, just below the allowable limit. Otherwise, TSV, Inc., has the option to apply for a separate permit to divert Rio Hondo water for snowmaking..."

With the inclusion of the above suggested additions and corrections to the third paragraph on p 6-24, the first paragraph on p 6-25 could be deleted.

ISSUE 5: MONITORING. A number of comments indicated the need to monitor one or more of the environmental impacts associated with a new facility. This was generally stated in letter 93. Letter 12 recommended that there should be systematic monitoring of the actual environmental and economic effects of the new facility by TWSD, with enforcement responsibility designated to a government agency. Letter 237 requested water quality monitoring at two locations: the John Dunn Bridge and the cattle crossing in Arroyo Hondo canyon. If the water is polluted at either check point, the source of the pollution should be located. The owners of the facilities polluting the river should be fined and made to cease by court order. The owners should be required to correct the problem at their own expense not with tax dollars. .

Response to Issue 5. EPA is aware of no practical means of monitoring the economic effects of the new facility. Moreover, if such monitoring were available it would provide no basis for enforcement action. Downstream water-quality monitoring would be influenced by unregulated nonpoint sources and would not indicate that any particular discharger was

violating the law. In-depth, synoptic studies of the type needed to identify pollution problems can be included as a component of New Mexico's water-quality management planning program. EPA will require on-site monitoring of TWSD's discharge in its NPDES permit, and EID will conduct inspections of the plant and sample its effluent. If TWSD violates its permit, EPA or members of the public may take enforcement action in Federal District Court. Moreover, EID may enforce regulatory requirements in State Court.

ISSUE 6: SENSITIVE RESOURCES. Several comments addressed cultural resources, and one addressed visual resources.

Issue 6a. In the event of an "emergency discovery" of archaeological resources during construction, the Department of Interior's Consulting Archaeologist should be contacted as well as the State Historic Preservation Officer. (letter 13)

Response to Issue 6a. The text has been revised to reflect this information; see Part III, Errata for p 6-47. Also, notification of the above parties in the event of discovery of cultural resources during construction will be a condition of any construction grant (see Part IV).

Issue 6b. There is no reference to cultural resources in the text, except for Appendix E-8. (letter 11)

Response to Issue 6b. Cultural resources are discussed in the Draft EIS on p 6-43, 6-47 and 6-48.

Issue 6c. A documented, professionally acceptable archaeological clearance survey of the project area is needed prior to finalizing the EIS. (letter 11)

Response to Issue 6c. An archaeological survey has been completed. The survey for the Taos Ski Valley Master Development Plan EIS was expanded to include the area around the sewage treatment plant between the Rio Hondo and Highway 150. The Draft EIS text has been revised to include the survey results. The revisions are provided in the Errata for p 6-47. The survey concluded that there are no prehistoric cultural remains or historic sites within the survey area. While there are features associated with the historic mining operations and the Twining Townsite near the surveyed area, none are considered eligible for inclusion on the National Register. Archaeological clearance was recommended and has been approved; see new Appendix F to the Draft EIS, which is presented beginning on p III-9 of the Final EIS.

Issue 6d. Page 6-46 second paragraph, third sentence should be revised to reflect the fact that compliance with the Forest Service Visual Analysis objectives is desirable rather than mandatory. (letter 8)

Response to Issue 6d. This change has been made; refer to Part III, Errata for p 6-46.

ISSUE 7: VISITOR USE OF AREA. The population projections developed for the Draft EIS were complex; clarifications were requested in some comments.

Issue 7a. The assumption used to project annual visitation figures in Draft EIS Table 5-6 should be explained. (letter 8)

Response to Issue 7a. The reference at the beginning of Table 5-6 has been revised to make this clearer; see Errata, Part III of this report.

Issue 7b. The 20 percent increase projected on a peak day under alternative E, p 5-27 of the Draft EIS, is based on the 1980-81 season maximum capacity of 4000. Actual peak use (1979) was 4400. Thus, the increase is actually 10 percent. This is discussed correctly on p 6-50.

Response to Issue 7b. The increase as a result of the proposed action would be 20% over current and future conditions without the action, since the 4050 limit is in effect until the sewage treatment plant's problems are resolved. The discussion on p 6-50 refers to population trends at the ski valley and notes that current baseline figures for peak population are lower than in the past due to the skier limit.

Issue 7c. The reasoning in the EIS is distorted regarding the "skier limit". The average daily usage is less than half the limit; the number of skiers only exceeded 4000 three times during the 1979-80 ski season. Still there have been frequent violations of stream standards. The 4050 limit will not prevent recreationists from overloading the plant resulting in continued violations of stream standards.

Response to Issue 7c. The difference in average and peak skier usage is acknowledged in the text, see Draft EIS p 6-50. Violations which have occurred are a result of various factors, only one of which is influent quantity, which itself is subject to variables other than skier usage. Mechanical problems and plant failure have, for instance, caused violations when there were few skiers in the area. The basis for the interim skier limit is set forth on p 48-49 of the Forest Service EIS (USFS, 1981).

ISSUE 8: OTHER CONCERNS. The following comments generally deal with mitigation measures and/or coordination and planning for the future.

Issue 8a. How does this EIS relate to the decision now being made by the Chief of the US Forest Service, Max Peterson, on the Taos Ski Valley, Inc. Master Development Plan? (letter 228)

Response to Issue 8a. The Forest Service will allow expansion of ski facilities if and when TWSD can adequately treat the wastewater associated with a limited increase in skier numbers. The Forest Service decision is not contingent on EPA action or this EIS. To the extent that EPA's action influences treatment capacity, it may determine when an increase in skier numbers by Taos Ski Valley Inc. can be implemented.

Issue 8b. Representation on the Hondo Watershed Committee should be proportional to year-round population of the communities of Valdez, Canoncito, Arroyo Hondo, Des Montes, Arroyo Seco, and Twining. (letter 229)

Response to Issue 8b. Formation of a Committee, and representation thereon, would be the responsibility of local interests. As a general note, committees of this type usually function best if representation reflects not only the impacted population but those accounting for the impacts (including non-resident tourists and government activities).

Issue 8c. The Facilities Plan should include rehabilitation of the existing TWSD collection system to control the current infiltration problems. (letter 93)

Response to Issue 8c. This is included in the plan. The preliminary work to correct the infiltration and inflow problems has been started. TWSD plans to start the actual repair and replacement of lines in the summer of 1982. The work is scheduled for completion prior to operation of any new facility.

Issue 8d. The EIS has some writing and format problems: an abstract (p 3) which is not representative); a summary (Chapter 1) which can only be understood if one reads the whole document; a Table of Contents (Chapter 2) which should not be a chapter at all); and the absence of a conclusions section to tie things together at the end. (letter 236)

Response to Issue 8d. The format is consistent with the regulations of the Council of Environmental Quality which govern EIS preparation. EPA has reviewed the abstract and the summary for the Draft EIS and believes they adequately serve the purpose for which they are intended. A revised and updated abstract and summary are provided in this Final EIS.

Issue 8e. The operators of the Taos Ski Valley should initiate an active program to provide employment to long-time residents of the Taos County area, including a significant training pogram for both managerial and technical positions. (letter 42)

Response to Issue 8e. The comment is noted and EPA suggests this recommendation be presented directly to Taos Ski Valley, Inc.

PART III

MODIFICATIONS AND CORRECTIONS TO THE DRAFT EIS

PART III. MODIFICATIONS AND CORRECTIONS TO THE DRAFT EIS

Part III of the Final EIS contains revisions made to the Draft EIS based on: new or more complete information obtained since release of the Draft; modifications to standards and policies since release of the Draft; errors and omissions identified through the public review process; and internal review by EPA and the EIS consultant. Minor changes are incorporated into a list of errata, Section A. To update the discussion of water rights, and encompass events which took place after publication of the Draft EIS, two pages of the revised Draft have been reprinted in full. These revised pages are presented in Section B along with new pages containing archaeological clearance information. In addition to changes included in Part III, all of Chapter 1 (Summary) of the Draft EIS has been replaced by Part I of this Final EIS.

A. ERRATA

The following changes in the Draft EIS are of an editorial nature, and are relatively minor. Consequently, the affected pages have not been reprinted in full. These changes are to be incorporated into the Draft EIS. In each case the errata identifies the page, paragraph and sentence which has been revised, and then discusses the changes which should be made to correct the Draft EIS. References to Paragraph 1 etc. indicate the first full paragraph on a page. If no paragraph is cited, the lines containing the changes will be found in the first partial paragraph on the page.

Page 2-4, after Appendix E. Add: Appendix F. Cultural Resources Clearance.

Page 4-1, paragraph 2, line 4. Reword sentence to delete the phrase recent proposed changes are. The correct sentence is: "The standards are listed in Table 4-1 and discussed in section 6.2.2."

Page 4-1, paragraph 3, lines 7 and 8. Revise the phrase existing limitations which have been in effect for the last several years, and the more stringent limitations which would be imposed ... The phrase should read: former limitations which were in effect for the last several years, and the existing more stringent limitations which have been imposed ...

Page 4-2, delete existing footnote f and replace with new footnote f: Standards in parenthesis were in effect until April 1981, when they were dropped and new standards (marked by the asterisk) were adopted by the NMWQCC.

Page 5-3a, Table 5-1, item 7, last column. At the end of the paragraph add the sentence: Possible adverse impacts on ground water if improperly applied; monitoring may be needed.

Page 5-10, add the following to the end of the first partial paragraph. In addition to the specific treatment train listed in Table 5-1, the Facility Plan thoroughly evaluated extended aeration with brush rotors, and fixed media growth with biodiscs. These processes were screened out because of: lack of flexibility to compensate for wide seasonal variation in flows; operational problems related to the cold climate; added costs to house a larger physical plant; familiarity of existing plant operators with the activated sludge process; success of the proposed design in other high-altitude environments (e.g. Breckenridge, Colorado).

Page 5-18, paragraph 1, at end of Table. Add the following statement: (note: there are fewer non-skiing visitors under the maximum assumption because they are inversely related to overnight capacity, see Table 6-7).

Page 5-21, paragraph 1, line 3. After the word reason change period to semicolon and add: see Part IV, Section A for current TWSD hookup policy.

Page 5-25, Table 5-6, paragraph 1, line 3. Reword beginning of line to read: 'facilities (remain at 931 pillows); see Tables 6-7, 6-8, 6-9 for an explanation of these figures.'

Page 5-29, paragraph 3, line 2. Replace the paragraph from the sentence beginning "Based on discussions ..." with the following: Under the Clean Water Act, EPA may provide funding for the construction of new treatment works only if they will have sufficient reserve capacity. Usually, EPA determines necessary capacity through population projections. In this case, however, the wasteload allocation effectively restricts the amount of wastewater which TWSD may discharge to 95,000 gpd, regardless of population. Accordingly, sufficient reserve capacity for the proposed plant is 95,000 gpd and EPA funding is limited to a plant of that size. This EIS includes a comparison between the 95,000 gpd capacity alternative, in which EPA may participate, and other alternatives, in which EPA may not participate.

Page 5-30, third indented item (regarding Alternative G), second line. Replace five times as large with at least two-three times as large.

Page 5-41, paragraph 1, line 5. Add sentences: The hookup policies contained in the following scenario were rejected by the District after completion of the Draft EIS. The current District policy toward hookups is discussed in Part IV, Section A of this Final EIS.

Page 5-45, paragraph 1, add new paragraph as follows: Because of further violations of state effluent limitations during 1981-1982, EID as agent for the NMWQCC brought suit against TWSD in state District Court on March 2, 1982. The specific violations cited in the complaint are excessive BOD levels (to as high as 156 mg/l) in 5 daily-composite samples taken from late December to late February. EID also charges that TWSD's actions have impaired existing downstream water uses (drinking water, aquatic life) and therefore that they have caused violation of the state's antidegradation policy. The suit requests the Court to issue a permanent injunction

prohibiting TWSD from further violating the regulations (Section 2-101 A). This injunction would include a court order for TWSD to build a new treatment plant and to adopt and enforce a hookup policy and water conservation measures which will ensure conformance with the regulations. Penalties of $1000 for each violation (1981-82 or future) are requested, as well as any other measure the Court deems proper. It will be some months before the suit is decided. Both parties have agreed to a preliminary injunction which mandates that TWSD will comply with all applicable state standards. Violations are subject to a fine of $1000 per day, and would place TWSD in contempt of court. Twining is to take weekly samples of its effluent; the samples will be split for analysis by both TWSD and EID. The Committee to Save the Rio Hondo has moved to intervene in the suit; a judgement on the motion has not yet been made. The Committee would petition the court to instruct TWSD to build a new plant and to follow all recommendations of the CAC consensus.

Page 5-46, paragraph 5, replace with the following: The District has reviewed its decision in light of the Draft EIS and CAC consensus (see Section A of Part IV in the Final EIS).

Page 6-10, Title. Add the word Months so that the Title reads "Cubic Feet Per Second - Months x 100" (Note, a CFS-month divided by the number of days in the month will give the average cfs flow during that month.)

Page 6-11, paragraph 2, lines 2-3. Revise the phrase in parenthesis to read as follows: "(and must be certified by the chairman of the New Mexico Water Quality Control Commission as meeting all requirements of state law, and approved by EPA.)

Page 6-11, paragraph 4, lines 1-3. Revise the first sentence to read as follows: The stream standards were recently revised by the New Mexico Water Quality Control Commission (1981) and have been approved by EPA.

Page 6-22, paragraph 4, line 5. Change the words virtually all to most.

Page 6-22, paragraph 4, end. Add the sentence: Some families rely on surface water from the Rio Hondo for their domestic supply.

Page 6-22, paragraph 5, line 4. Change C.4 to C.8.

Page 6-23, paragraph 1, end of the last line. Add the phrase (all values in gpcd)

Page 6-23, paragraph 2, line 6. Delete (SEO, 1980).

Page 6-28, paragraph 2, line 1. Reword the first sentence to read: "EPA policy discourages the direct recycling of wastewater into a drinking water system, on the basis that it poses risks to public health."

Page 6-29, paragraph 3, lines 14 and 15. Reword the sentence which begins "In particular ..." to read as follows: "In particular, if phosphorus

control is not required on new point sources, such sources could use up the waste assimilation capacity of the river very quickly."

Page 6-30, paragraph 5, line 4. Reword sentence to add the word preliminary as follows: "(and WRD does not change its preliminary position)...".

Page 6-31, paragraph 1, second part, line 1. Replace first sentence which begins "Either approach ..." with the following: Since preparation of the Draft EIS, both the above approaches have been undertaken through formal applications to the State Engineer. TWSD is seeking to utilize San Juan-Chama Project water during the winter only. TSV, Inc. has purchased additional downstream water rights (17 acre-feet per year) and is seeking their transfer. Both actions have been protested by owners of Rio Hondo water rights.

Page 6-40, paragraph 2, lines 2-5. Replace the end of the paragraph, beginning with the word 'therefore', as follows: although the area is generally not attractive to bald eagles. No nesting sites have been identified in the Carson National Forest. The Rio Grande provides a much larger prey base than the Rio Hondo (especially in the upper reaches) so that it would be very unusual for the bald eagle to hunt in the Twining area (EPA, 1981).

Page 6-40, paragraph 3. Add new sentence at beginning of paragraph: An active peregrine falcon eyree has been identified on private land within a 15-mile radius of TWSD (EPA, 1981).

Page 6-42, paragraph 3. Replace paragraph with the following: The principal concern regarding adverse effects on the peregrine falcon is the potential for uptake of chlorinated hydrocarbons from consumption of contaminated prey. Since the proposed action would not effect the area's attractiveness to prey species it would not increase the potential for the falcon's uptake of chlorinated hydrocarbons. Therefore, the proposed action would have no adverse impacts on the peregrine falcon (EPA, 1981).

Page 6-43, paragraph 2, line 1. Add the following sentence to the beginning of the paragraph: An archaeological survey of the project area was conducted in the fall of 1981. The survey revealed no historic or archaeological sites which could be affected by the proposed action; archaeological clearance was approved by the Acting Forest Supervisor in December, 1981 (see Appendix F).

Page 6-45, paragraph 5, line 11. Add the word former as follows: "... Paul Bernal, former Taos Pueblo Tribal Council Secretary..."

Page 6-46, paragraph 1, lines 4 and 5. Reword the sentence "Any modifications made to the ski area must comply with this objective." as follows: "It is desirable that any modifications made to the ski area comply with this objective."

Page 6-47, line 1-3. Reword the sentence "An archaeologic survey would be necessary prior to construction; salvage or even relocation might be needed if important resources are found." as follows: "An archaeological survey of the project area has been conducted; no important resources were found which would be impacted by the proposed action."

Page 6-47, line 5. At the end of the sentence, add the phrase: and the Department Consulting Archaeologist for the Secretary of the Interior.

Page 6-47, paragraph 3, line 1. Reword the sentence "No known archaeologic sites or historically significant structures exist within the TWSD area." as follows: "The archaeologic survey revealed no known archaeologic sites or historically significant structures within the TWSD area."

Page 6-48, paragraph 2. Add the following sentence to the end of the paragraph: For additional impacts on agricultural lands refer to p 6-66, 6-76, 6-78, 6-81, 6-84, 6-85.

Page 6-59, paragraph 2, lines 11-17. Replace discussion of master plan approval with the following, updated information: The Forest Service has approved the master plan (with modifications) and TSV, Inc. has begun to implement the plan. The Forest Service decision was appealed by members of the public; the Chief Forester denied this appeal. The Committee to Save the Rio Hondo has indicated intent to litigate the decision, and American Citizens Together has identified steps it intends to take locally to protest the action and may also initiate litigation against the Forest Service.

Page 6-59, paragraph 3, line 4. Delete the phrase Table 6-3 indicates that.

Page 6-84, paragraph 4, lines 6-9. Reword the sentence which begins "However ..." to read: "However, 20 acres of land already owned by Taos Ski Valley, Inc. will be retired from production if their current application before the State Engineer is approved. No additional land would be required unless TWSD should no longer have access to the Pattison water right."

Page 7-3, item 9. Replace with the following: The CAC provided the TWSD with a consensus recommendation on the type and size of facility and other considerations on September 15, 1981 (see Part IV, Section A and Appendix A of the Final EIS).

Page 7-3, add new item 10: CAC chairman Lawrence S. Taub provided an evaluation of the EIS public participation program (see Appendix A of the Final EIS). He indicated that opportunities for informed public input were successful but would have been improved through an outreach effort and more attention to the language problem. He indicated that public information materials were adequate and identified the EIS consultant as providing the clearest information. He was critical of EPA and the TWSD engineer with respect to their participation in the process and was

severely critical of TWSD, which he concluded to have communicated poorly and to have failed to consider all viewpoints expressed.

Page 8-1. In the "List of Preparers", under Environmental Protection Agency add: Pat Rankin, J.D. Law; 8; Environmental Law.

References, page 9-4, after EPA, 1980c, add the following reference: EPA, 1981. Letter to Jerry Stegman, Regional Director, U.S. Fish and Wildlife Service, from Clinton B. Spotts, Regional EIS Coordinator, EPA. Dallas, Texas dated October 29, 1981.

Page C-2, paragraph 6, line 4. Change 8,762 cfs to 17,350 AFY.

Page C-2, paragraph 6, line 5. Change 6,162 cfs to 12,200 AFY.

Page C-3, paragraph 3, line 5. Revise the last sentence of the paragraph as follows: "This would account for a yearly increase of one to one and one half inches of water lost to evapotranspiration. It is not possible to project the basal area of the forest back from 1963; however, the professional opinion of the Forest Service is that increased evapotranspiration requirements, due to forest growth, could account for virtually all the decrease in Rio Hondo runoff.

Page C-12, paragraph 4, line 2. Change "own any water rights" to "own any water rights used by the District".

Page C-15, line 2. Change WRD determined to Taos Ski Valley reported.

Page C-15, line 7. Reword the sentence "WRD calculates that 30 percent of diversions for snowmaking are consumed;..." as follows: "WRD's preliminary calculations indicate that 30 percent of diversions for snowmaking are consumed;..."

Page C-17, footnote a. Revise last part of footnote to read as follows: ; and have been approved by EPA.

Page E-2 through E-5. Pages are out of order. Pages E-2 and E-3 should be E-4 and E-5. Pages E-4 and E-5 should be E-2 and E-3.

B. PAGE REVISIONS

This section presents the two pages of the Draft EIS which have been substantially modified in response to comments received, and an entirely new Appendix (F) which has been added to the Draft document. The original page number for each of the revised (or new) pages is given in parenthesis following the Final EIS page number. Except for entirely new pages, the portion of the page containing changes is indicated by a heavy line in the left margin.

1979, bacterial non-compliance (levels more than 5 per 100 milliliters) was evidenced in the monthly water samples. EID has noted possible increased problems associated with the on-site system which serves the Schwendi facilities, upstream from the public water supply. A separate problem was experienced in September, 1980, when runoff from a nearby disturbed area (active trail construction work) carried sediment into the system, causing excessive turbidity levels.

Water Rights. Water rights for the Twining water system are leased from their owner, the Pattison Trust; prior to purchase by the Trust the rights were used for irrigation in the lower valley. These water rights are considered secure, assuming continued renewals of the Pattison Trust lease. In 1976, the District Court issued a partial final decree in the adjudication of water rights on the Rio Hondo. The Court Order allows the Pattison Trust to divert 218.2 acre-feet per year (AFY) from the Rio Hondo and to consume 10.91 AFY. This decision is somewhat unusual because domestic use of water normally consumes at least 25 percent of diversions, and return flow (sewage discharges) is less than 75 percent of diversions. However, the Court Order acknowledges a different ratio: because most of the water used in the District is by-pass flows, which return directly to the river, it is assumed that only 5 percent of water diverted is actually consumed. The Pattison rights are junior in priority to rights such as those in Arroyo Hondo. According to New Mexico law, during a water-short year, those with senior rights should obtain a full water supply and those with junior rights should bear the shortage. However, the only mechanism for enforcing this rule is for the state to appoint a water-master. Before this can be done, the majority of water users must petition the State Engineer to appoint a water master and agree to bear the cost of administration. To date this has not been done for the Rio Hondo.

Based on the WRD study, 1980 diversions and consumption for domestic and by-pass use are within the limits of the permit. The studies made for the EIS concur with the possible exception that by-pass diversions may exceed the limits. In 1980 there was no formal permit for snowmaking operations, and diversions for this purpose were stopped by order of the State Engineer dated February 11, 1981 (see Appendix C.8).

TWSD has been allocated 15 AFY of San Juan-Chama Project water, which can be used to offset water-use effects on the mainstem Rio Grande. (The alternative of physically pumping the water from the Rio Grande to the Ski Valley would be extremely expensive and is not considered practical). On August 24, 1981, TWSD filed Application 3751 with the State Engineer to divert 200 AFY (causing a consumptive use of 15 AFY) for municipal, domestic, commercial and snowmaking purposes within the District and adjacent areas during the period November 1 through April 10 of each year. The District proposes to offset the 15 AFY stream depletion by release of their San Juan-Chama Project water. The application has been protested and the applicant has requested a hearing before the State Engineer. If project water cannot be used in Twining, it is certain that there will be a need to obtain and retire irrigation rights in order to accommodate expected growth and increased water use (see section 6.2.7). TWSD would have to obtain such rights in the marketplace; the District lacks municipal powers to condemn

water rights. Small amounts of water rights held by the Forest Service for grazing purposes would not be available to the District (LaSalle, 1981).

On October 29, 1981, Taos Ski Valley also filed an application (#01701) with the State Engineer. The Ski Valley purchased a 20-acre parcel in Arroyo Hondo with consumptive rights to 17 AFY. TSV, Inc. has applied to change the point of diversion to Twining for municipal, domestic, commercial and snowmaking use. This application has been protested; as yet (February, 1982) a hearing date has not been set. In addition, Taos Ski Valley, Inc. (TSV, Inc.) owns two parcels of land with irrigation water rights on the Rebulse ditch which diverts from the Rio Hondo. The water rights on these parcels could also potentially be used for snowmaking. These parcels, which for now remain in cultivation, are 10.9 acres and 1.7 acres, and collectively have consumptive use rights of 15.88 acre feet per year. If it can be demonstrated to WRD that snowmaking is allowed by the existing Pattison permit, then consumptive use authorized under that permit would amount to 10.8 AFY, just below the allowable limit. To date, TSV, Inc. has not requested transfer of these rights. The impacts of retiring irrigation rights are discussed in section 6.2.7.

Proposed Upgrading. TWSD is proposing to upgrade the water system by regular maintenance of the main water meter, complete metering of all individual users, replacing the Beaver Pond infiltration gallery, placing the existing 50,000 gallon storage tank into service, adding a 200,000 gallon fire protection tank, repairing or replacing some connecting pipes and burial of bypass lines to at least a 5 feet depth (BLL, 1980). The development of a ground water source is being considered, either at a location just below the Schwendi restaurant or along the river above Beaver Pond. Further development of Schwendi infiltration gallery has been proposed, since it has proven to be the most reliable surface water source.

Downstream Use. In the Rio Hondo basin twelve irrigation ditches (acequias) have 6,836 acre-feet of diversion water rights for 2,735.7 acres of land consumptive use rights are 3,424 AFY in a full-supply year. To meet this demand the Rio Hondo would need to sustain a flow of 15 to 20 cfs at the Valdez gage. As shown by Figure 6-2, flows of this size have never been common late in the irrigation season and the situation has worsened considerably due to the overall reduction in stream flow. A water storage project of some type would be required to accommodate all irrigation needs of the valley (Wilson, 1978). Small amounts of surface water are used for domestic purposes. Some domestic supplies come from six mutual domestic water systems (including the Twining System) which collectively divert about 190 AFY and consume about 57 AFY. The remaining, larger portion of the domestic supply is provided by individual wells, which are estimated to account for a diversion of about 342 AFY and consumption of 103 AFY. Miscellaneous water uses, such as for stock watering, fish and wildlife, etc., divert 19 AFY, 18 of which is consumed. Total diversion is thus 7,387 AFY with consumption calculated at 3,602 AFY. Irrigation accounts for 95 percent of total consumptive use. The total water needs of the area are significantly less than runoff in the Rio Hondo, even in a dry year. The main problem is, as shown in Figure 6-2, that too much of the runoff occurs in too short a time and there is not enough

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2	3	4	5	6	7	8	9	10	11	12	13	14	F. I. 15	M. I. 16
D	O	U	G	H	E	R	T	Y					J	D

17	18	19	20	21	22	23	24	25	26	27	28	29	30	31

Project Name / Report title (Abbreviate if Necessary)

32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
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56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80

Special Conditions of Clearance

None. No sites were located in the proposed project area.

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Report Accepted — Yes [X] No [ ]

Clearance Recommended — Yes [X] No [ ] David A. Gillis — Regional Archeologist — 25 Nov 81 — Date

Clearance Approved — Yes [X] No [ ] _____ — Forest Supervisor — _____ — Date

PAGE 1

III-9 (Draft EIS p F-1)

INVENTORY STANDARDS AND ACCOUNTING

(Ref: FSM 2361.7)

Instructions in "Cultural Resources Automated Information System"

Report Number

YEAR 1	2	3	4	FOREST 5	6	NUMBER 7	8	9
1	9	8	1	0	2	C	2	3

Report Date:

Month 10	11	Day 12	13	Year 14	15	16	17
0	8	1	C	1	9	8	1

Inventory Type [1] (18)

Percent of Statistical Sample: (19, 20)

Average Number of Individuals Used: [redacted] (21, 22, 23)

Total Project Acreage: 140 . (24, 25, 26, 27, 28, 29)

Average Spacing Between Individual (feet): (30, 31, 32)

Acreage Completely Inventoried: . (33, 34, 35, 36, 37, 38)

Acreage Sample Drawn From: (39, 40, 41, 42, 43, 44)

Number of Sites Located: 0 (45, 46, 47, 48)

Project Function: Taos Ski Valley (49, 50)

Institution Conducting Inventory: (51, 52)

	FIELD	LAB	ADMIN
Hours Expended	16 (53, 54, 55, 56)	(57, 58, 59, 60)	4 (61, 62)
Project Acreage	240 (63, 64, 65, 66, 67, 68)		

Recommended Determination of Effect: (By Professional Cultural Resource Specialist only.) 1 (69)

Initial EMS

District Number (70, 71) Multiple Report Series (72)

PROJECT LOCATION

	ZONE	NORTHING			EASTING		
UTM	13	40	50	000	4	58	540
	13	40	49	440	4	60	380
	13	40	46	000	4	60	005

FS-2361.0-2 (6/80)

81-02-623

An Archeological Survey of the Taos Ski Valley
Proposed Trails, Lifts and Parking Lot

by Julia D. Dougherty

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INTRODUCTION

In order to insure that no cultural values will be adversely affected by the proposed trails, lifts and parking lot at Taos Ski Valley, an archeological inventory was conducted on [illegible] acres of Forest Service land in the project area. The project is located in T. 27 N., R 14 E., sections 3, [illegible] and 10 of the Questa Ranger District, Carson National Forest, New Mexico.

THE SURVEY

The survey was conducted by the author on August 10 and 11, 1981. A 100 percent inventory was conducted on the proposed trails, lifts and parking lot by walking in a zig-zag manner to insure that all of the land area was covered. The flat areas, including the parking lot and a few places on the slopes and the occasional small prominances were carefully inspected as any archeological sites would likely occur in these areas. The area surveyed is clearly delineated on the map accompanying this report. It includes the new west parking lot and the areas between and adjacent to the current parking, lifts 7 and 8 and their associated trails, and two additional trails east of lifts 1 and 5. The area around the sewage disposal plant between the Rio Hondo and the paved road was also examined as part of this survey.

CULTURAL REMAINS

No prehistoric cultural remains were located in the Taos Ski Valley survey area. This fact is not surprising as the area is characterized by high elevations and very steep slopes. Although there is evidence of high altitude utilization by prehistoric populations elsewhere in the Sangre de Christo mountains, the resulting sites are sparsely scattered and extremely ephemeral. Any sites found in such an environment would represent simple seasonal hunting camps utilized between 6000 BC and AD 1000 by Archaic and Anasazi groups. It is possible that Plains tribes may also have used the area for hunting (Cordell 1978).

The only remaining evidence of human activity in the area is associated with the mining town of Twining and the recreational activity at Taos Ski Valley. There was some indication of these activities in the area surveyed for the new parking lot in the floor of the canyon. Nothing qualified as an archeological or historical site was found in the actual survey area. However, features associated with mining operations at Twining were observed near the survey boundaries.

All that remains of the historic site of Twining is located on Forest Service land near the extreme northeast corner of the survey area. The remains consist of a stone foundation belonging to the once Post Office, General Store and Hotel building.

Twining was established around the year 1900 (Post Office 1902) by the Frazer Mining Company. By 1903 Twining had a General Store-Hotel, mill, concentrator, smelter, charcoal furnace, lime kiln, saloon, and several miners cabins and bunkhouses. Mining operations proved to be shortlived and virtually disasterous. There is no official record of any copper or gold production in the region. It is reported that during the first use of the smelter, the copper ore solidified in the furnace preventing any further use. After the mine closed in 1903, all of the cabins and bunkhouses were moved to Taos. The hotel stood whith all of its furnishings in tact until it was torn down by a wrecker in 1924. The mill burned down in 1932 and the site is now occupied by the Thunderbird Lodge (Sherman and Sherman 1975).

The hotel foundation was recorded on a USFS Archeological and Historical Site Inventory form (FSM 2361). There is very little artifactual material left on the surface undoubtably due to the extensive salvage operations carried out shortly after the mine was closed. A very few historic artifacts were found washing downslope from the hotel site in the NE corner of the survey area. These exist in an extremely disturbed context and were, therefore, not recorded as a separate site. None of the artifacts would be adversely affected by building the parking area as they have no contextual significance.

A small feature was located on private land on the south side of the Rio Hondo across from the proposed western parking area. The feature consists of a rubble wall running parallel to the southern bank of the river. It is assumed that this feature represents a levi to contain the river and that it is associated with the townsite of Twining .

The only other features found in the parking lot area were three modern hearths and several old road beds associated with either the mining operations or the ski valley. These have no historic significance. None of the historic remains within the survey boundary or associated with the townsite of Twining are considered eligible for the National Register.

CLEARANCE RECOMMENDATIONS

The latest listings of the National Register have been consulted and no sites which are on the register of have been nominated to the register occur in the project area. No sites which are eligible for nomination to the register occur in the project area. This project complies with the provisions of the Historic Preservation Act of 1966 and with Executive Order 11593. Archeological clearance for the proposed improvements at Taos Ski Valley is recommended.

REFERENCES

Cordell, Linda S.

1978 A CULTURAL RESOURCES OVERVIEW OF THE MIDDLE RIO GRANDE VALLEY, NEW MEXICO. USDA Forest Service, Southwestern Region and Bureau of Land Management, New Mexico State Office. Albuquerque, Santa Fe.

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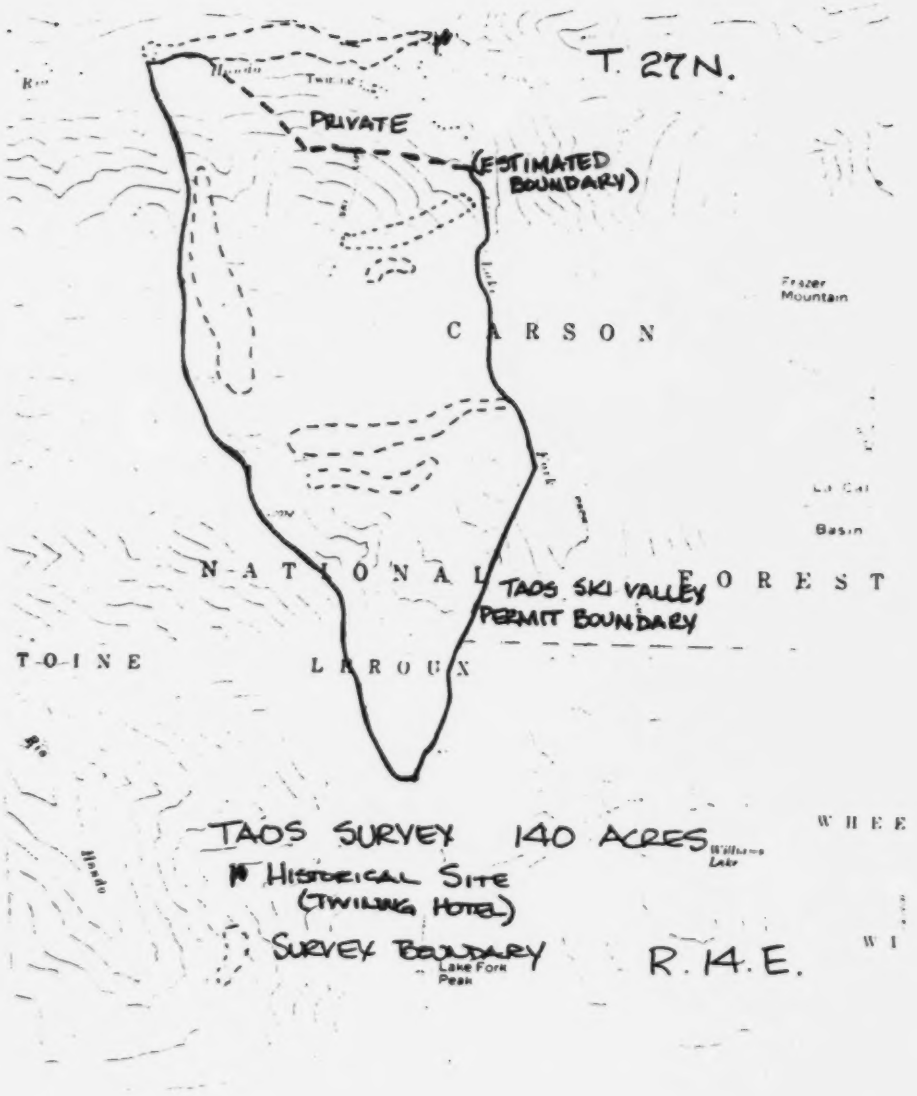

PART IV

PREFERRED ALTERNATIVES

PART IV. PREFERRED ALTERNATIVES

Five entities had a formal role in the EIS process:

the Twining Water and Sanitation District (TWSD), the grantee;

the U.S. Environmental Protection Agency (EPA), the granting agency;

the Citizens Advisory Committee (CAC) appointed by TWSD pursuant to EPA regulations;

the New Mexico Environmental Improvement Division (EID), which provided a portion of the local grant assistance;

and the U.S. Forest Service (USFS), which is responsible for issuing the special use permit at the treatment plant site.

Each has made a recommendation or decision with respect to the alternatives which were evaluated in the Draft EIS. These positions are summarized in Table IV-1. Appendix A of the Final EIS contains the full text of the documents which set forth the positions of the TWSD, CAC, EID and USFS; the positions are briefly reviewed in this Part IV. EPA's preferred action is set forth in Section C of Part IV.

TABLE IV-1. PREFERRED ALTERNATIVES.

	Type of Plant	Size	Funding	Hookups
CAC	Alternative 1: conventional, new plant utilizing existing facilities	Alternative B: 80,000 gpd; to serve 4050 skiers, existing development; capable of expansion	Federal share for 80,000 gpd plant; all costs of expansion to be paid for by District	Hookups allowed if no permit violations for 2 years; phased thereafter
TWSD	Alternative 1: conventional, new plant	Alternative E: 95,000 gpd	Federal share for 95,000 gpd plant	Hookups provided on conservative basis after first year
EID	Alternative 1: conventional, new plant	Alternative E: 95,000 gpd	To be determined	CAC hookup policy generally supported
USFS	Alternative 1: conventional, new plant	Alternative E: 95,000 gpd	Federal share for 95,000 gpd plant	
EPA	Alternative 1: conventional, new	Alternative E: 95,000 gpd	Federal share for 95,000 gpd plant	TWSD to determine hookup policy; hookups allowed unless violations caused

Source: Letters in Appendix A.

A. POSITION OF TWSD AND CAC

As described in the Draft EIS, the District prefers to construct a conventional treatment plant (alternative 1) with 95,000 gpd capacity. A complete statement of the District position is given in Appendix A, p A-8 to A-9. The position is set forth to provide point by point responses to the recommendations made by the CAC; thus it is appropriate to discuss the details of the CAC position and then consider the TWSD responses.

After extensive debate, the CAC reached a consensus agreement which contains many specific recommendations. The CAC position required that all recommendations be accepted by the District; lacking such acceptance, the CAC would be deemed to have made no recommendation. The complete text of the CAC position is set forth on pages A-2 to A-3. (Pages A-4 to A-5 provide the specifics of the CAC hookup formula; p A-6 to A-7 are a characterization of the public participation process prepared by the CAC Chairman.)

The major components of the CAC consensus are as follows.

1. Treatment should be accomplished by construction of Alternative 1, a new advanced treatment facility. As discussed in the Draft EIS (Table 5-1), this would use conventional aeration processes for secondary treatment with high-pH lime coagulation and sand filtration to remove phosphorus to 1.0 mg/l or less during critical low-flow periods. Flow equalization (7-day) would be provided, and final disinfection would be by ozonation. Sludge would be dried in a greenhouse and disposed of by landfill.

2. There would be significant retention of existing facilities in the new construction.

3. The plant would be designed for 80,000 gpd capacity, the amount needed to serve existing base area development including the Kandahar Condos.

4. Federal and state funding would be limited to an 80,000 gpd plant.

5. TWSD could design and build a 95,000 gpd plant, paying for the difference between the two capacities.

6. The expansion of the capacity from 80,000 gpd to 95,000gpgd would involve the gradual allowance of new hookups each year, with the number of hookups dependent on the performance of the treatment facility, and with a hookup moratorium following any non-compliance.

7. The District would make an extensive commitment to value engineering.

The CAC further recommended that: TWSD receive New Mexico's number 1 priority ranking for construction funding; a watershed committee be formed to work on water issues for all residents of the Hondo Valley; TWSD exercise its responsibilities with respect to water-quality monitoring and the control of nonpoint sources; water conservation efforts be continued and expanded; District staffing and management be expanded; District operations be conducted in an open manner, with regular reporting to the public; adequate backup facilities be constructed; long-term water rights be obtained in a manner which would avoid any strain on downstream water users.

TWSD did not accept the CAC recommendations in their entirety. This effectively nullified the CAC recommendations, so that at this time as a group the CAC has no position with respect to wastewater management in Twining.

TWSD has already commissioned the design of a 95,000 gpd facility. The facility is of the type described in item 1 of the CAC position summarized above. There would be retention of existing facilities in the new construction to the extent practicable.

TWSD objects to the concept of a fixed hookup policy, partly because it believes that such a policy may not withstand legal challenges, and partly because such a policy is considered inherently inequitable. However, TWSD does propose to operate the plant at no more than 80,000 gpd for at least one ski season and to add hookups slowly thereafter, in a manner consistent with the results of ongoing monitoring. The gradual expansion will be based on the ability of the District to comply with effluent standards, and will not serve as a means of growth control.

With respect to other recommendations or issues raised by the CAC, the District: will attempt to obtain a value engineering assessment; is now ranked first on the funding priority list; believes that the public participation process in facility planning was thorough; made no specific statement regarding a watershed committee but will encourage public participation on all water issues still awaiting determination; will correct the infiltration problem; will work toward nonpoint-source control, primarily by hookup of properties on septic tanks; will take various measures to encourage water conservation; presented information on its existing management practices, which have expanded greatly in the last three years; believes it now operates in an open manner, and is willing to increase notice periods and agenda availability and to provide sampling and monitoring results at reasonable times and upon reasonable request; will guard against facilities breakdowns; is seeking permanent water rights in proceedings before the State Engineer, which rights would require TWSD to avoid damage or impairment to the beneficial uses of other parties.

The TWSD policies stated on p 5-21 of the Draft EIS are still generally applicable. TWSD will seek construction grant funding for a 95,000 gpd facility, but is also considering funding alternatives so that, regardless of the outcome of its grant application, a new plant can be constructed in 1982.

B. EID AND USFS POSITIONS

The New Mexico EID provided several specific recommendations with respect to the proposed facilities; refer to their letter on p A-10. EPA has responded to the EID letter; see p A-11.

Representatives of the U.S. Forest Service support the construction of a new conventional plant (alternative 1) with capacity of 95,000 gpd. The reasons for this decision are contained in their letter, p A-12, and include: the facility would have capacity sufficient to handle the 4800 skiers proposed in the Taos Ski Valley, Inc. Master Plan; would allow hookup of the Kandahar, a major nonpoint-pollution source; would allow TWSD management flexibility to address moderate growth; and in general provides for the greatest combination of reliability and cost-effectiveness. The USFS recommendation assumes that TWSD will correct the existing infiltration problems, continue its water conservation efforts, and develop an effective nonpoint-source control program. The USFS supports priority funding to eliminate the existing pollution problem, supports funding for value engineering; and recommends steps to insure competent inspection of project construction.

C. PREFERRED EPA DECISION

This Section identifies the preferred action of the U.S. Environmental Protection Agency on funding improvements to wastewater treatment facilities for the TWSD. The decision is structured so that it responds to each of the statements made in the CAC consensus agreement, since such a structure insures that major public concerns are discussed. It is recognized that, as the CAC position was not accepted by the District, none of the specific recommendations contained in the consensus agreement represent CAC findings or conclusions.

1. Summary of EPA Decision

Based on a thorough review of TWSD's Facilities Plan, the analysis in the Draft EIS, and written and oral comments received on the Draft EIS, EPA prefers the alternative of funding construction of eligible portions of the treatment works as proposed by TWSD. This alternative was described in Table 5-1 of the Draft EIS, and was summarized under item 1 of the CAC position discussed in Section A.

The treatment plant will be constructed adjacent to the existing plant. It will treat 95,000 gallons per day (gpd) of wastewater to levels specified in TWSD's NPDES permit and dictated by its wasteload allocation. To conserve funds, TWDS will, to the extent practical, incorporate portions of the existing facilities in the new plant. To minimize disruptions to the reliable operation of the new facilities, TWSD will not use portions of the existing facility likely to fail.

The existing plant does not provide adequate treatment for protection of the Rio Hondo, the high quality cold water fishery to which it discharges. Recognizing this problem, the State of New Mexico has given priority to award of a construction grant to TWSD. Likewise, EPA considers it of utmost importance that TWSD proceed with construction of the new facility as expeditiously as possible.

The Draft EIS identified impacts associated with growth of the TWSD, including adverse effects on the historical way of life in the lower Rio Hondo valley (see Draft EIS Section 6.6.). Most adverse impacts related to growth in the TWSD are likely to occur, however, regardless of EPA's action. EPA participation in funding the much needed facility will result in a single, centralized treatment facility to serve the base area of the resort, minimizing the potential for a proliferation of independent facilities; in this respect, the funding probably will result in more orderly growth in the project area, and will have beneficial effects.

To date, action has not been taken by the New Mexico Water Quality Control Commission (NMWQCC) to update the New Mexico Water Quality Management Plan to include the wasteload allocation for the TWSD discharge. The wasteload allocation proposed by the EID is discussed at length in the Draft EIS. EPA's preferred alternative is premised on the formal adoption of the wasteload allocation, and no construction grant will be awarded until that occurs. The NMWQCC is scheduled to act on the proposed update at its meeting on May 11, 1982. If the proposed wasteload allocation is significantly modified, EPA will reconsider its funding alternatives.

2. Evaluation of Public Input, CAC Recommendations and EID Recommendations

Many groups and individuals submitting written comments on the Draft EIS or speaking at the public hearing supported EPA funding for improvements to TWSD's wastewater treatment facilities. Others opposed funding outright and some opposed funding unless EPA incorporated specific conditions in its grant. EPA received additional comments from the CAC, as discussed in Section A, and from the EID, as discussed in Section B. Having carefully reviewed these comments and recommendations, EPA presents its analysis in the following sections.

3. Plant Capacity

The CAC recommended that EPA fund an 80,000 gpd plant, i.e., capable of adequately treating existing wastewater flows only. Under the recommendation, the plant was to be designed to allow expansion at a later date, should TWSD desire to expend local funds on such an expansion. EPA can not accept that recommendation.

Under Section 203 of the Clean Water Act, EPA may not now fund construction of wastewater treatment facilities unless "the size and capacity of such work relate directly to the needs to be served... including sufficient reserve capacity." The limitations of its wasteload allocation mean that

"sufficient reserve capacity" for the proposed plant is 15,000 gpd, yielding a total plant capacity of 95,000 gpd. Thus, EPA may not fund a plant of 80,000 gpd in Twining.

As a practical matter, the physical difference between a plant which will treat 80,000 gpd and one which will treat 95,000 gpd is not great. Such plants, which represent the lower end of the size range constructed to serve municipal needs, use many components which function equally well at either capacity. Accordingly, there would be little, if any, cost savings to EPA or TWSD constructing the 80,000 gpd plant. If such savings did occur, it is likely that a subsequent decision to expand the plant would negate them if usable components needed to be replaced.

4. Hookup Policy

The CAC recommended, with the support of NMEID, that EPA condition the grant and subsequent permits to prohibit new service connections to the proposed plant unless there had been no permit violations for at least two years. EPA has no authority to impose such a requirement. Nor is there need for one.

Through permit conditions or judicial action, EPA may impose hookup bans on a publicly owned treatment works possessing insufficient treatment capacity to meet its permit's effluent limitations. Hookup bans are, however, a preventive, not punitive, measure intended to keep overloaded treatment plants from becoming more overloaded and have little utility in addressing permit violations resulting from other causes, e.g., improper operation.

Although existing flow (with hookup of all base facilities) is only about 80,000 gpd, the proposed facility will treat 95,000 gpd of wastewater to the degree required by its wasteload allocation. It would be premature to impose hookup restrictions on a plant with over 18% (15,000 gpd) reserve capacity.

This does not imply that EPA intends to allow unlimited hookups which, at some future date, would cause permit violations. EPA intends to condition the facility's permit to state:

> ...In no case are any new connections, increased flows, or significant changes in influent quality permitted that will cause violation of the effluent limitations specified herein.

Although the exact time depends on the rate of growth in its service area, its wasteload allocation, and its operational treatment efficiency, the proposed plant will someday reach its maximum capacity. To comply with its permit, TWSD must cease further hookups at that time. The TWSD policy described in Section A, which calls for a conservative expansion of hookups, is consistent with EPA's position.

5. Quality Assurance

The CAC recommended a commitment to "value engineering" by TWSD for the first two years of plant operation and a continuing quality assurance program thereafter. TWSD has indicated an interest in this type of assessment, which would not be considered grant eligible.

TWSD must employ a competent resident inspector to oversee construction of the facilities and the U.S. Army Corps of Engineers will make periodic inspections of the construction as it progresses. TWSD must develop an EPA approved operation and maintenance plan prior to operation of the new facilities and its NPDES permit will contain a general condition requiring that the plant be properly operated and maintained. EPA will condition TWSD's grant to make the engineering firm which designed the plant responsible for its first year of operation. Although TWSD may retain the engineer for an additional period of time, EPA will not participate in the cost of those services past the first year. EPA will also condition the grant to require that TwSD adopt a sewer use ordinance which includes a system of charges adequate to insure operation, maintenance and replacement.

6. Continuing Public Participation

The CAC recommended that there be formal public participation in the design and construction of the facilities. Facilities design, as opposed to facilities planning, offers a relatively narrow range of technical options generally beyond the expertise or interest of the lay public. To the extent construction activities are of interest to the public, e.g., when it interferes with the orderly flow of vehicular traffic, experience shows that affected parties need no formal participation program to vent their complaints to appropriate authorities. Accordingly, EPA will not require TWSD to implement such a program.

EPA will not require the formation of a watershed committee, as the responsibility for continuing water-quality management planning rests with the State of New Mexico.

7. Nonpoint Source Pollution Control

The CAC recommended that TWSD actively attempt to reduce nonpoint-source pollution of the Rio Hondo resulting from on-site treatment systems, e.g., septic tanks. TWSD intends to follow that recommendation and, to the extent of its authority, will require present users of on-site systems to use the new treatment facilities. TWSD also intends to serve as many future units as practicable with the proposed facilities. Reduction of on-site systems should result in a corresponding reduction of phosphorus in the Rio Hondo, an occurrence which might result in an increase in TWSD's waste load allocation.

TWSD will not act alone in its efforts to reduce nonpoint-source pollution of the Rio Hondo. The U.S. Forest Service and Taos Ski Valley, Inc. will implement a program which has the potential to significantly reduce runoff

from ski trails, parking lots, base area, and construction sites associated with the Ski Valley. (See USFS 1981a and 1981b.)

8. Flow Reduction Measures

The CAC recommended that TWSD identify and correct excessive inflow and infiltration problems in its collection system. TWSD has identified sources of these problems and will correct them this summer.

The CAC also recommended that TWSD continue its water conservation programs for existing and future customers. EPA has no reason to believe that TWSD will reject this recommendation and accordingly, perceives no reason to require such measures as a condition of federal participation.

It should be noted, however, that calculation of reserve capacity for the proposed facility is predicated on continuance of present influent quality. A per capita increase in water consumption would tend to lower treatment efficiency, decrease the reserve capacity available to TWSD, and hasten the day on which it can no longer provide service to new customers and still comply with its NPDES permit. Moreover, should TWSD rescind its water conservation program after all reserve capacity is expended, violation of its permit may result.

9. Management of TWSD; Reserve Fund

The CAC recommended that TWSD retain permanent staff and an administrator to carry out the operations of the District; they further recommended operation in a sound fiscal manner with an adequate reserve fund. The TWSD's response on this point was given in Section A. EPA will not require any particular financial management system be developed by TWSD. However, as mentioned in the discussion of quality assurance above, TWSD must adopt a sewer use ordinance which includes a system of charges adequate to insure operation, maintenance and replacement.

10. Contingency plans for Plant Malfunction

The CAC recommended that TWSD provide treatment backup capabilities during plant construction and operation. The TWSD is required to proceed with its activities in a manner such that the existing permit (or interim limits if appropriate) is met at all times. Once any new facility is operating the TWSD must meet its final permit on a continuing basis and must provide for adequate treatment at all times. Under its NPDES permit, the TWSD must provide standby power which would allow for primary treatment and disinfection in the event of an emergency.

11. Water Rights

The CAC recommended that TWSD purchase or lease long-term water rights and that any attainment of water rights be done in such a manner as to minimize the effect on water users in the lower Rio Hondo valley. The TWSD is

responsible for managing water supply service as well as wastewater treatment for members of the District. Therefore, it must insure the availability of water for the District over the long-term. Some adverse impact may occur from the transfer of water rights from downstream agricultural land to consumptive uses in TWSD. This transfer, which may lead to the conversion of agricultural land, is a local problem unrelated to EPA funding of the proposed treatment works. Accordingly, it must be resolved at the local level.

12. Other Considerations

TWSD currently bans the use of phosphorus detergents within its boundaries for the purpose of reducing the amount of phosphorus which reaches the Rio Hondo. Recision of that ban would have effects similar to recision of water conservation measures; see subsection 8 above.

No cultural properties included in or eligible for inclusion in the National Register of Historic Places have been identified that would be affected by construction and operation of a new TWSD wastewater treatment facility. However, any construction grant would be conditioned to require that if buried cultural resources are encountered during construction, work must cease in that area and the TWSD must provide notification of the discovery to EPA, the State Historic Preservation Officer, and the Departmental Consulting Archaeologist, Interagency Archaeological Services, U.S. Department of Interior. EPA will then proceed in accordance with the regulations of the Advisory Council on Historic Preservation (36 CFR, Part 800) prior to any action taken which would affect the resource.

The eligibility of TWSD to receive federal funds is discussed on p 3-3 of the Draft EIS. Priorities in the construction grant program are established according to water-quality needs and are not dependent on the financial needs or abilities of the affected community.

APPENDIX A

APPENDIX A. DOCUMENTS CITED IN PART IV

	PAGE
CAC Consensus Recommendations	A-2
Evaluation of Public Participation Program	A-6
TWSD Letter of April 12, 1982	A-8
EID Letter of December 14, 1981	A-10
EPA Letter of December 29, 1981	A-11
USFS Letter of October 30, 1981	A-12

September 15, 1981

RECOMMENDATIONS TO THE BOARD OF DIRECTORS
OF THE TWINING WATER AND SANITATION DISTRICT
(TWSD) BY THE CITIZENS ADVISORY COMMITTEE (CAC)
FOR THE TWSD.

The Citizens Advisory Committee was impaneled on October 1, 1979 to act as a continuing advisory group to the TWSD and its agents in the preparation of the environmental impact studies and facilities for the proposed waste water facilities project. The CAC, under its Rules of Procedure, has the stated purpose of review and comment on elements of the study and to make recommendations to TWSD pertaining to the study and plan. It is further stated that the CAC's role shall be an advisory and communications role, with decision-making responsibility remaining with the Grantee.

It is the stated position of the CAC that the responsibility for clean water rests with the TWSD within its boundaries and that the citizens of Taos County look to the TWSD to insure that quality water is maintained in the Rio Hondo.

Accordingly, the CAC makes the following recommendations to the TWSD:

Adoption of the Lee Wilson "Possible Consensus Position" dated August 11, 1981 as the recommendation of this Committee (Attachment I) summarized as follows:

I. Size of Plant.

80,000 gpd 'capable of expansion'. Serves existing base area (including Kandalar) and 4,050 skiers (assuming infiltration problems solved).

II. Funding of Plant.

80,000 gpd: all costs of expansion beyond 80,000 gpd paid by District.

III. Type of Plant.

Conventional, new plant with significant use of existing facilities.

IV. Hookup Policy.

Use of the formula as outlined in the attachment to determine the amount of additional service to be provided by the plant.

The procedure would be applied by a 'technical expert' familiar with the various concepts; and it would be reviewed by various parties, including EID and the value engineer. The selection of appropriate values for use in the procedure would reflect the professional judgement of these persons.

IV. Hookup Policy Conitnued.

These procedures could not be undertaken unless there has been two years of complete compliance with all NPDES requirements.

After any violation, as defined by EID, there would be a two year moratorium on the use of the formula to allow new hook-ups.

This procedure does not ensure 'no-growth' in Twining and it does not even set a ceiling at 95,00 gpd. Rather, it provides for relatively slow expansion of the resort in proportion to their ability to protect the Rio Hondo. It allows growth dependent on performance.

So long as the District is following a logical policy, as the above, then their legal responsibilities for protection of the Rio Hondo provide a full justification for postponing any hookups which go beyond those allowed by the calculation. Thus there could be some control over the timing & character of growth. It is appropriate to specify that if this authority is challenged, the District would recognize the right of others to intervene in the litigation.

Should the District want to continue to allow independent plants, these facilities would be plugged into the formula as though they were part of the main plant. The effluent quality of the independent plants would continue to be plugged into the calculations so that any failures in these plants would be fully reflected in the hookup policy.

V. Other Matters.

There should be a relatively extensive commitment to value engineering through at least the first two years of plant operation.

Additionally, the CAC makes the following recommendations, clarifications and comments:

In order to accomodate the elimination of the current polution problems, under the above mentioned Lee Wilson formula plan, the CAC hereby endorses the TWSD in its request for the #1 ranking from the State of New Mexico EID for E.P.A. construction funds upon acceptance of the committee's recommendation.

The CAC recommends formal public participation in steps 2 & 3 of the EPA Construction Grants Program, and further suggests the establishment of a "Rio Hondo Watershed" committee to work on the various water issues for all residents of the Hondo Valley and as the Watershed's § 208 designee by the Governor of New Mexico it is recommended that the TWSD assist in establishing this continuing public body with other interested persons and groups.

The CAC recommends that the TWSD exercise its responsibility for monitoring non-point sources and act to coordinate efforts to minimize or eliminate non-point sources within its boundaries. To further this goal the District should adopt a policy to limit independent treatment under its powers for health and safety under New Mexico statute including the use of aquifiers for waste water disposal and discharge. It is further suggested that there be correction of infiltration problems and where prudent include the placing of sewer lines within 400 feet of property boundaries to enable the District to compel hookups to the central plant under its authority through New Mexico statute. Additionally, provision should be made in the District By-Laws to prevent any circumvention of a central hookup policy by sub-division or other means to change property boundaries to be further than 400 feet from such collection lines.

It is recommended that there be continuing water conservation programs within the District, including strict conservation requirements for new hookups. The TWSD should require all water use to be metered with permanent records maintained by the District to aid in this conservation regard as well as for user charge purposes.

It is recommended that the District retain permanent staff and an administrator to carry out the operation of the District including fiscal management with annual financial audits. It is further suggested that there be a continuing quality assurance program by the District using independent engineering consultants beyond the two years suggested by Lee Wilson. There should also be study, evaluation and implementation of an adequate reserve fund to allow for repairs and improvements to the plant.

It is recommended that the District Board operate in an open manner encouraging member and general public envolvement including posted and published agendas and minutes and public notice of meetings. There should be a public notification and comment period for any new hookups available to both District members and the general public as well as formal meetings on any new hookups including any priority listings.

It is recommended that the District provide regular reporting of all sampling and monitoring activities for public inspection.

It is recommended that any facility plant make adequate provision for malfunction backup during both the construction of the plant and during the active operation of the new plant.

It is recommended that the District purchase or lease, over a long-term period the Pattison trust water rights now "informally" used by District before the plant is fully designed or make other arrangements for long term water rights.

It is further suggested that any purchase and/or transfer of water rights be done in such manner so as to avoid any strain on water resources for down stream users, both residential and agricultural.

Reproduced from best available copy.

It is recommended that there be such amendment of the District By-Laws as to reflect the terms of this recommendation as is necessary and appropriate to effectuate these policies as adopted by the TWSD.

As these recommendations become the basis for government funding, it is suggested that the enforceability of these terms be secured by their inclusion in any EPA/EID Grant Contracts and in all operating permits issued to the District.

The Consensus Recommendation has been drafted and approved as an integrated and interrelated set of recommendations and the CAC believes that they must be adopted in their entirety. Therefore, this Recommendation as the final consensus statement of this Citizens Advisory Committee shall not serve as the position of the CAC upon rejection of any of the recommendations by the District or by any other governmental agency or upon the exclusion of the recommendations from any operating permit including the NPDES permit.

The Consensus Recommendation of the CAC is made by the members as a group and does not necessarily represent the postion of any organization, agency or other body that any member of the CAC may belong to, represent or be a member of.

These recommendations were approved by the unanimous vote of the Citizens Advisory Committee at their meeting of September 15, 1981.

Chairman

Attest: Mesa Consultants

Public Participation Coordinator

To: CAC
From: Lee Wilson
Re: Possible Consensus Position
Date: August 11, 1981

Based on responses at the last CAC meeting and after discussions with representatives of the CAC, TWSD and CSRH, I have outlined the specifics of a possible consensus regarding a 'preferred alternative' which could be adopted by the District and supported by the CAC. The concepts reflect Larry Faul's original proposal with some variations.

My philosophy has been to balance the established interests as follows:

- provide for EPA funding to the District (without this, TWSD will not agree);

- within the limits that are available, place the maximum constraints on District growth (through the maximum protection of water quality); this is not 'no-growth'.

- provide positive incentives for good management on the part of the District;

- otherwise to provide for 'Best Available Technology'.

The specific suggestions are:

- an 80,000 gpd plant in which TWSD pays for any modifications needed to make the plant 'expansible';

- a funding request for the 80,000 gpd facility supported by all parties;

- construction of a conventional new plant in which significant use is made of existing facilities;

- a hookup policy which depends on the ability of the District to meet effluent and stream standards.

It should be recognized that the District might well get EPA funding even without a consensus - but probably after long delays in which the funding percentage shrinks and the cost of the facility inflates. So it is in their interest to agree. And, it is possible that CSRH might completely thwart such funding - but if so, even the relatively limited growth controls outlined here will be lost (and protection of the river will not necessarily improve); this is reason enough to work for a compromise.

Larry's consensus offers at least the hope of a successful long-term solution to some of the problems of the watershed. Whether or not mutual hope can be converted to mutual trust remains to be seen.

I. SIZE OF PLANT.

80,000 gpd 'capable of expansion'. Serves existing base area (including Kandalar) and 4050 skiers (assuming ifiltration problems solved).

The concept is that TWSD would design and bid an 80,000 gpd plant with the understanding that there would be a 'change order' prior to actual construction. This change order - which would be paid for entirely by the District - would identify any parts of the plant which would be a physical or design bottleneck should the facility ever be expanded to 95,000 gpd. These bottlenecks would be redisgned (at District expense) and the added costs of construction paid by the District; thus, plant would not have to be torn down to be expanded. The purpose of this is to provide for proper design of the plant from day 1. Note: I am not positive that this idea would be acceptable to EID and EPA without some modification.

Step 2. Determine Reserve Capacity

$RC = Qe_2 - Qe_1$

RC = reserve capacity, or potential increase in plant discharge which could occur without violating stream standards.

Qe_2 = as defined above, but converted to gpd.

Qe_1 = existing flow of plant, based on actual monitoring data. Would be the highest 7-day flow of record.

Step 3. Calculate Available Reserve Capacity

$ARC = F \times RC$

ARC = reserve capacity which is available for new hookups in the following year.

F = a percentage factor which increases as years of NPDES compliance accumulate. After 2 years of compliance, F = 5%; after 3 years another 5%. Increases by 10% for each subsequent year of compliance. Thus 12 years of non-stop compliance produces F=100%. Returns to 0 for 2 years after any violation, then 5% etc.

Step 4. Calculate Allowable Hookups

$HU = ARC/U$

HU = number of new connections to sewer system which are allowed in following year.

U = sewage flow per hookup. Actual flow projected from the specific hookups being considered. To be estimated using standard values defined in EIS, but revised every five years or so (and also before plant expands beyond 95,000 gpd). (Note - we did check the standard values in March; they are remarkably good!)

As an example, assume that Ce = 1.0 mg/l; then Qe_2 = 95,000 gpd. (That is, the equation is solved exactly as in the EIS.) If the plant starts out at 80,000 gpd, RC = 15,000 gpd. There could be 750 gpd of expansion after 2 years and again after 3 years of compliance and 1,500 gpd of new hookups each year thereafter so long as the facility stays in compliance. Once the 10% (1,500 gpd) per year increase is reached, TWSD would be able to accommodate an expansion of 150 day skiers or 30 pillows or some combination, per year. When Qe = 95,000 gpd, no new hookups would be allowed until Qa, Cs, Ca, and Ce were revised. See TWSD letter of June 26, 1981 for District priorities in offering these hookups.

Other examples could be provided. If the plant continues to have compliance problem there would be no hookups. If TWSD can bring effluent quality down below the standard, consistently, more hookups would be available sooner. For example, a Ce of 0.8 mg/l translates to 4,000 gpd of hookups per year instead of 1,500 gpd. If, in addition, non-point sources are controlled, the rate of increase could easily rise to 6,000 gpd per year.

In short, this procedure does not ensure 'no-growth' in Twining and it does not even set a ceiling at 95,000 gpd. Rather, it provides for relatively slow expansion of the resort in proportion to their ability to protect the Rio Hondo. It allows growth dependent on performance.

II. FUNDING OF PLANT.

80,000 gpd; all costs of expansion paid by District.

Reproduced from best available copy.

III. TYPE OF PLANT.

Conventional, new plant with significant use of existing facilities.

For reasons explained at the last meeting ('nothing less than the best') I still favor a new plant using conventional treatment. At the least there must be new phosphorus treatment and disinfection facilities. I'd also argue for a new activated sludge system since rehab aeration systems almost never work as well in practice as they do on paper, and always seem to use excessive amounts of energy.

On the other hand, the existing aeration basin could serve as the new equalization basin and the existing clarifier (old package plant) could serve the same purpose in a new plant. Therefore, I propose that during Step II there be a focussed effort on salvaging as much of the existing plant as is consistent with good design practices. (The decision on this point to be based on value engineering, see item V). This concept should provide the best quality effluent (better than standards), most reliability, reduced construction cost; and least use of resources (such as energy!)

IV. HOOKUP POLICY.

The following procedure could be used to calculate the extent to which TWSD's treatment plant capacity would be expanded. It is assumed that: the procedure would be applied by a 'technical expert' familiar with the various concepts; and it would be reviewed by various parties, including EID and (if such exists) the value engineer. The selection of appropriate values for use in the procedure would reflect the professional judgement of these persons.

These procedures could not be undertaken unless there has been two years of complete compliance with all NPDES requirements.

Step 1. Solve Wasteload Allocation Equation (Appendix B.4 of EIS)

$$Qe_2 = \frac{Qa\ (Cs - Ca)}{(Ce - Cs)}$$

Qe_2 = potential flow which may be discharged from plant (in cfs).

Qa = stream flow; use values defined in EIS. The value of Qa would be reassessed every 10 years or so, and definitely before plant was expanded to beyond 95,000 gpd. EID would have to approve any change in estimated value. Installation of a gaging station in Twining would improve the ability to evaluate Qa.

Cs = stream standard; see EIS. Could not change unless so directed by EID

Ca = background pollution; use values/procedures defined in EIS. As for Qa, should be reassessed periodically, perhaps every 5 years, and certainly before facility expands to beyond 95,000 gpd.

Ce = effluent concentration for phosphorus. Average of two highest values recorded over previous 3 years.

As a non-lawyer, it seems to me that so long as the District is following some type of logical policy (such as the above) then their legal responsibilities for protection of the Rio Hondo provide a full justification for postponing any hookups which go beyond those allowed by the calculation. Thus there could be some control over the timing and character of growth. (It might be appropriate to specify that if this authority is challenged, the District would recognize the right of others to intervene in the litigation.) In contrast, should the District fail to make reasonable progress toward full use of the wasteload allocation, I suspect a legal challange could succeed. That is, someone like Kachina Village could force EPA to issue an independent NPDES permit and Twining could not stop it. Thus there is nothing gained by over-controlling the District.

Should the District want to continue to allow independent plants, these facilities would be plugged into the above formula as though they were part of the main plant. For the first two years Ce would be assumed to be 1.0 mg/l. Thus, at least initially a plant such as proposed by Ski Solar Taos would 'take up' 3500 gpd worth of hookups and, in effect, TWSD's ability to offer hookups to the central plant would be reduced by this amount. But, after 2 years the situation would be reassessed in terms of the actual effluent quality from the independent plant. Thus, if SST could maintain a discharge of 0.1 mg/l phosphorus, as per design, the wasteload allocation calculations would be adjusted accordingly. (This would make SST equivalent to 360 gpd of hookups because the effluent would be 10 times better than assumed in the allocation formula.) The effluent quality of the independent plants would continue to be plugged into the calculations so that any failures in these plants would be fully reflected in the hookup policy.

V. OTHER MATTERS.

In general I suggest a relative extensive commitment to value engineering through at least the first 2 years of plant operation. In most other respects I think there is a basis for consensus by considering Larry's memo and the District's first letter.

Should negotiations take place, be aware that a good rule is 'there is no agreement on any single point until there is agreement on all points'. That is, support for any particular concept is dependent on satisfactory resolution of all other issues.

LAWRENCE STEVEN TAUB
COUNSELLOR AT LAW
RANCHITOS ROAD
POST OFFICE DRAWER T
TAOS, NEW MEXICO 87571
(505) 758-8711

RECEIVED
DEC 4 1981
S & A DIVISION

December 1, 1981

Chris Stagg, President
Twining Water & Sanitation District
P.O. Box 66, Taos Ski Valley
Taos, New Mexico 87571

RE: PUBLIC PARTICIPATION PROGRAM EVALUATION
CITIZENS ADVISORY COMMITTEE (CAC)

Dear Chris:

In reply to the U.S. Environmental Protection Agency's request for this evaluation, via Presley Hatcher, I will follow his outline of points to be addressed:

I. OPPORTUNITY FOR INFORMED PUBLIC INPUT:

Of the four points to be discussed, I believe that this area was the most successful of the Public Participation Program. The CAC offered a forum through its regular committee meetings and public meetings for interested citizens to express their views on the relevant matters. The system was, however, imperfect as it did not allow for outreach into the affected community, but rather, forced those affected to come forward into a form of decision making alien to many indigeneous residents. Additionally, the language problem was never effectively addressed. As an example, the DEIS summary prepared in Spanish was only available at four locations rather than being widely disseminated. The area of language and communication is one which the TWSD, EPA, and NMEID only paid lip service to and never dealt with head on to reach a fair resolution to better involve the entire community.

II. ADEQUACY OF PUBLIC INFORMATION MATERIALS:

The materials were adequate, at times overwhelming in their volume and technicality, and useful to those interested in learning about and understanding the many issues. This area was highly dependent on the presenting party. Lee Wilson by and large was the clearest in his materials and presentations. The EPA hid behind its regulations and did not allow an open, frank and free-flowing discussion of relevant matters with their representatives. The State EID, over the two years, developed its receptivity to the questions and issues discussed with its representatives and was helpful to the CAC. The State needs to develop its public participation presentation to effectively fulfill its role in New Mexico. The Engineer,

Gene Leyendecker, was the least effective in this regard, meeting only a few times with the committe and when consenting to appear, offering only a minimum of information. Only after pulling teeth was the committee able to discuss the Draft Facility Plan with Mr. Leyendecker. This situation existed throughout the entire two years of the CAC and was never corrected.

III. CONSIDERATION OF THE GRANTEE OF ALL VIEWPOINTS EXPRESSED:

I believe that the Grantee has failed to consider all viewpoints expressed. The Grantee maneuvered around input and suggestions that were contrary to their particular needs and goals. Clear evidence of this was their rejection of the CAC Consensus Recommendations. After having three months in which to be involved with input and then allowing final recommendations to be reached, thus bridging all the conflict that has surrounded the TWSD and its predessors for many years, the District let the agreement fall apart. When the NMEID attempted to resurrect the Consensus, it failed because the District Board proved too stubborn to cooperate with its downstream neighbors and a group of its own District members. The consequences of this lack of consideration and cooperation will continue to plague the District until such time as they understand the viewpoints and interests outside of those of their Board of Directors.

IV. RESPONSE TO THE PUBLIC BY GRANTEE REGARDING REASONS FOR ACCEPTING OR REJECTING IDEAS:

POOR. A prime example is the District's response to the Consensus Recommendation. There was no communication with the public during the five week period between the issuing of the Consensus Recommendation and the EPA Public Hearing on the DEIS. Only at that meeting did the District finally inform the public that it was rejecting the Consensus. Common curtesy to the CAC members who spect two years working on this project would have dictated prior disclosure of the District's differences with the recommendations so that a resolution of these matters could have been reached. The District was indifferent to public involvement and was only concerned with its own goals and economic interests thus ignoring the expression of genuine concern from the public. Other examples exist of delay in providing information and responses to the Committee such as requested legal opinions and the letter delivered to the CAC on May 5th and dated May 4th although it was written and prepared the previous week and delivery to committee members had been requested prior to the meeting so an informed discussion could be had.

The original outline of the CAC, as first presented in October, 1979 and carried out by the initial public participation coordinator, was a failure and only through the efforts of a small group of committee members was there developed a format for a workable CAC with an adequate budget to have an effective public participation coordinator and a credible community technical advisor. Through these efforts and a continued citizen interest and involvement for two years the CAC developed a fair and comprehensive set of recommendations to the District.

It now appears that the District is not going to seek government funding, stating that they have finally clarified their needs and goals and will fund the plant themselves after learning that the State EID has endorsed the CAC recommendations as its basis for government involvement. I continually stated throughout this process that the District was unclear and lacked adequate planning and management in their daily operations and long range goals. After two years they have now decided that they will go it on their own, substantiating my claim of confusion, misrepresentation, inadequate planning and insensitivity to concerns from the public. The initial recommendation from downstream residents was that the District pay for their own plant. Now, after what appears to be two years of wasted time, the District is following this advice, rejecting the Consensus recommendation so that they can do what they want.

I therefore suggest that the EPA and NMEID seriously consider a complete reimbursement from the TWSD for the public monies that were ill-spent in this apparent farce of public participation and government involvement which benefited the TWSD with an EIS and a Facilities Plan at only 12½% of their true costs. Obviously, I further recommend that there be no government funding unless the TWSD reconsiders their position and completely adopts the CAC Cconsesus recommendation.

In service,

Lawrence S. Taub - Chairman
Citizens Advisory Committee
Twining Water & Sanitation
District

LST/es
cc: Senator Dominici
Clinton Spotts, EPA
Joe Pierce, NMEID
Paul Robinson
Grove Burnett, Esq.

twining water and sanitation district

p.o. box 66, taos ski valley, n.m. 87571

April 12, 1982

Mr. Clinton B. Spotts
U.S. Environmental Protection Agency
Region VI, 1201 Elm St.
Dallas, Texas 75270

Dear Mr. Spotts:

The Board of the Directors of the Twining Water and Sanitation District has considered the CAC recommendations of September 15, 1981, and has the following thoughts. This supersedes any previous correspondence from the District.

The specific recommendations will be considered in the order presented in the CAC report.

1. The size and funding considerations for the new plant have become moot in light of the plant designs currently under consideration.

2. The new plant currently under design is of the type suggested.

3. The District objects to the hookup policies suggested by the CAC. The District is considering several alternative hookup programs, and it recognizes that it must control future hookups to minimize or eliminate future discharge violations. However, the District is fearful that implementation of a firm policy could lead to legal challenges, as well as the promulgation of independent treatment plants within the District; both of these possibilities are undesirable as long as the District has the capacity for additional hookups.

The District is primarily concerned with assuring water quality. It recognizes the problems with the current plant, and it is committed to implementation of the best available sewage treatment technology this summer. Once a new treatment plant is in operation, the District understands that performance should be tested for at least one ski season to ensure proper operation. In addition, the District is reluctant to operate the new plant at a capacity greater than 80,000 gpd during its first year of operation. After the first year, hookups will be added conservatively, and the plant will be continuously monitored to assess operations and performance. The District hopes to slowly work toward the projected capacities, in order to avoid overextension and marginal operation.

To every extent possible, the District will work within these guidelines. It is, however, generally opposed to the concept of an unwavering hookup policy. This is partly for legal reasons, which could arise if the District attempts to deny new hookups when it has obvious capacity. It is also because the Board believes that no policy could possibly be devised which comprehends all of the intervening and countervailing factors which could mandate or foreclose future hookups.

The District must always operate within its permit and the stream load allocation standards; of course it will strive continuously to operate and develop prudently, and to secure compliance throughout. It is not, however, an agency to control growth; as a quasi-public utility, it must attempt to treat customers equally. Accordingly, the District does not believe that it can be the sole means of controlling growth in the valley, although it will cooperate in any way possible with any efforts to plan future land use or implement zoning standards for the valley.

4. The District believes that value engineering could prove enlightening, at least initially. It will attempt to obtain an assessment of this type prior to commencement of construction, if such is at all possible.

5. We believe that the TWSD currently currently ranks #1 in priority for E.P.A. construction grants; we further believe that public participation was thorough throughout the grant application process. It will encourage public participation on all of the water issues still awaiting determination.

6. The District is sensitive to the lack of coordination with non-point sources, and to the infiltration problem. It has studied the infiltration in detail, and the problem should be corrected by the time when the new plant is completed. It will strive, within the perameters of prudence, economics and reasonable hookup guidelines, compel the owners of problematic septic systems to tie into the central system, and to encourage hookups by all other non-point sources.

7. The District will continue to encourage conservation. It is currently promulgating a list of low-flow equipment which it will recommend or require of users. It will require metering of all new users.

8. The District currently employs a staff and an administrator. Its manager is Class IV. The annual budget has more

than doubled since 1979, and a 100% spare parts inventory has been acquired. The District will continue to budget in a way which allows adequate reserves for study and repairs.

9. The District believes that it operates now in an open manner. It provides advance notice of at least a week before its regular meetings, and the agenda is generally available at least a day in advance. If more notice would be helpful, the Board could announce its regular meetings two weeks in advance, and provide agendas two days ahead. It will also provide as much notice of special meetings as is practical.

10. The sampling and monitoring results could be available upon reasonable request and at reasonable times for inspection.

11. Of course, the District will take every practical step to guard against breakdown of the facilities during and after construction.

12. Proceedings are currently pending before the New Mexico State Engineer for acquisition by the District of more permanent water rights.

13. As a user of declared and permitted water rights, the District is required to avoid damage or impairment to the beneficial use of the water by other parties.

14. The Board does not believe that its Bylaws require amendment to reflect the statements made herein.

In general, the District policy is consonant with the policy enunciated in the Draft E.I.S. (see page 5-21); and it does intend to evaluate plant performance carefully after each new hookup. It will discourage future hookups when it believes that water quality regulations could be threatened thereby. It will not encourage independent treatment plants within the District, but does not believe that it has authority to prevent their implementation.

The District is committed to construction of a new plant this year, regardless of the outcome of its grant application. Accordingly, it is considering funding alternatives; however, if the grant were awarded, the District would commit any funds raised independently, to further refinements of design and technology.

We hope that this statement is helpful in preparation of your final Environmental Input Statement. Please contact us if you need anything further.

Yours very truly,

Douglas Terry
President

STATE OF NEW MEXICO
ENVIRONMENTAL IMPROVEMENT DIVISION
P.O. Box 968, Santa Fe, New Mexico 87503
(505) 827-5271
Thomas E. Baca, M.P.H., Director

Bruce King
GOVERNOR

George S. Goldstein, Ph.D.
SECRETARY

Lonny J. Gordon, M.S., M.P.H.
DEPUTY SECRETARY

December 14, 1981

Dick Whittington
Regional Administrator
U.S. Environmental Protection Agency
First International Building
1201 Elm Street - Region VI
Dallas, TX 75270

Dear Mr. Whittington:

The staff of the New Mexico Environmental Improvement Division (EID) has completed its review of the Draft Environmental Impact Statement (DEIS) describing Wastewater Treatment Facilities for Twining Water and Sanitation District, Taos County, New Mexico.

The EID endorses the preferred alternative treatment process selected by the Twining Water and Sanitation District (TWSD). This process consists of extended-aeration, activated-sludge treatment with flash-mix lime addition for phosphorus precipitation and ozonization for final effluent disinfection. Sludge treatment will consist of aerobic sludge digestion prior to drying on sand beds and final disposal by land fill. The treatment capacity of the preferred alternative is 95,000 gallons per day and significant use will be made of existing facilities.

As part of this review the EID determined that the wastewater treatment plant should be designed and constructed to comply with a limited Class I reliability classification as described in the Environmental Protection Agency (EPA) Manual MCD-05, Design Criteria for Mechanical, Electric and Fluid System and Component Reliability. The EID has determined that because the Rio Hondo, into which the TWSD effluent is discharged, is designated for use as domestic water supply and high quality cold water fishery, it is necessary to assure that treatment reliability is sufficient to protect this stream from acute toxic and pathogenic loading of treatment plant effluent in the event of equipment failure. Accordingly, all unit processes within the treatment system, with the exception of lime addition/clarification for phosphorus removal, will be designed for Reliability Class I.

The DEIS and the record of testimony heard at numerous public meetings and public hearings accurately reflect the schism that exists between the TWSD and many persons living downstream along the Rio Hondo. The heart of this issue is growth and development within the boundaries of TWSD. In its strategy for Water Quality Management, the New Mexico Water Quality Control Commission has stated its long-term goal: "to promote environmentally sound, balanced economic and social change through the maintenance of adequate surface and ground water quality." It clearly is not the intent of the EID to regulate growth; however, the wasteload-bearing capacity of the Rio Hondo is limited and to the extent that this natural resource is limited, responsible management of TWSD includes implementing a policy that allocates and prescribes the rate of utilization of the load-bearing capacity of the Rio Hondo within TWSD boundaries.

As part of the public participation process required by Section 101(e) of the Federal Water Pollution Control Act Amendments of 1972, representatives of TWSD and the affected public concurred in a list of Recommendations to the Board of Directors of Twining Water and Sanitation District for this project. The EID recognizes that the recommendations made by the Citizens Advisory Committee (CAC) reflect the concerns of the affected public and are environmentally responsible compromises for all parties in the area. The EID endorses the general tone of the CAC consensus, realizing that certain items in the consensus were included as clarifications and comments, while certain other recommendations were phrased so as to serve as conditions in a Federal permit or grant document. Specifically, the intent of the CAC consensus with regard to Item I, Size of Plant, and Item III, Type of Plant, will be implemented in Step 2 of the Construction Grants Process through construction plans, specifications, and contract documents. Item II, Funding of Plant, outlines a funding proposal which the EID supports. The EID has stated to TWSD that grant funds will not be available for a treatment plant with capacity in excess of 95,000 gallons per day. The EID recommends the inclusion of Items I, II and III as grant conditions in a future EPA-TWSD grant agreement.

With regard to Item IV, Hookup Policy, due to the wastewater's potential adverse influence on the water quality of the Rio Hondo and the TWSD's historic noncompliance with NPDES permit effluent requirements, the EID insists on inclusion of this item as a condition in any future EPA grant agreement with TWSD for Step 2/3 funding. It is the EID's position that this request reflects the EPA's policy of utilizing alternative enforcement mechanisms,when appropriate, to insure the protection of water quality, and is supported by Section 402(h) of the Clean Water Act which provides:

> In the event any condition of a permit for discharges from a treatment works which is publicly owned is violated, ... the Administrator may proceed in a court of competent jurisdiction to restrict or prohibit the introduction of any pollutant into such treatment works by a source not utilizing such treatment works prior to the finding that such condition was violated...

Due to the long-standing enforcement problems brought about by effluent noncompliance on the part of TWSD, the inclusion of these conditions will serve as further assurances that water quality in the Rio Hondo will be protected. Moreover, if the conditions are not included in the grant agreement, the EID believes the design and construction phases of the Construction Grants process will be severely delayed because of continued litigation by agrieved downstream residents.

Sincerely,

Thomas E. Baca
Director, EID

EQUAL OPPORTUNITY EMPLOYER

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VI
1201 ELM STREET
DALLAS, TEXAS 75270

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EID Dir's Office

December 29, 1981

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JAN 05 1982

Thomas E. Baca
Director
New Mexico Environmental Improvement Division
P.O. Box 968
Santa Fe, New Mexico 87503

Dear Mr. Baca:

Thank you for your December 14 letter commenting on EPA's Draft Environmental Impact Statement on proposed wastewater treatment facilities for the Twining Water and Sanitation District.

EPA will fully consider all of your comments during its review of the Twining project. To enhance coordination between our agencies, however, I am responding to your comment on sewer hookup policy now.

EPA imposition, through grant conditions, of the area-wide hookup ban suggested by the Citizen's Advisory Committee is inappropriate. EPA will, of course, include such a condition in an NPDES permit if the State of New Mexico makes it a condition of certification pursuant to Section 401 of the Clean Water Act.

As discussed at our meeting on December 16, the status of actions required on the Twining project is:

A. Hearing on 208 Plan and subsequent adoption of Waste Load Allocation--EID will request permission from the Water Quality Control Commission in January to hold a hearing in February. In March, the Commission will decide whether or not to amend the Water Quality Management Plan to include the proposed Waste Load Allocation for the Twining Water and Sanitation District.

B. Completion of EIS--EPA will complete the EIS as soon as possible after New Mexico's decision on Waste Load Allocations.

C. Issuance of NPDES Permit--EPA will issue notice of hearing in February. The hearing will be scheduled for March and occur after New Mexico's decision on Waste Load Allocations.

D. Application for additional funding--EID will encourage the Twining Water and Sanitation District to (1) apply for a combined Step 2+3 grant or (2) complete Step 2 with its own funds and apply for a Step 3 grant.

Sincerely yours,

Dick Whittington, P.E.
Regional Administrator

UNITED STATES DEPARTMENT OF AGRICULTURE
FOREST SERVICE
Carson National Forest
P.O. Box 558
Taos, New Mexico 87571

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S & A DIVISION

2720
(2540)
October 30, 1981

Mr. Clinton B. Spotts, Regional EIS Coordinator
U.S. Environmental Protection Agency, Region VI
1201 Elm Street
Dallas, Texas 75270

Dear Mr. Spotts:

Following is our response to the Draft Environmental Impact Statement for the wastewater treatment facilities for the Twining Water and Sanitation District.

1. We recommend the construction of a new conventional plant (Alternative 1) with plant capacity of 95,000 gallons per day (Alternative E). A plant of this size would be of adequate size to handle the 4800 skiers as proposed in the Taos Ski Valley, Inc., Master Plan Development Plan EIS. This arrangement of alternatives would also allow the hookup of the Kandahar which has been a major source of non-point pollution to the Rio Hondo. The 95,000 gpd plant would allow for a modest increase in growth at Twining and will provide for greater flexibility in management for TWSD. Our recommendation is based on the assumption the TWSD will correct the existing infiltration problems, continue its efforts in water conservation practices and develop an effective program for the District to minimize non-point pollution sources. This arrangement of alternatives provides for the greatest combination of reliability and cost-effectiveness.

2. The problems associated with the existing plant have taken place for a number of years.

Consequently, we request that the TWSD be given a first priority ranking for funding of new treatment facilities. This should minimize any further delays.

3. Value Engineering should be allowed in Step 2 of the process. In addition, some assurance is necessary that there is sufficient technological expertise so that the actual construction phase is carried out properly. We recommend that minimum qualification direction be given to the grantee so that a competent resident inspector is on site during the construction phase. This will provide a greater assurance of properly designed and constructed treatment plant.

4. Page C-3 #3 second paragraph.

   The 1 to 1½ inches of water lost to evaporation does not account for all the decrease in flow in the Rio Hondo. To account for all the documented decrease in flow in the Rio Hondo one would have to demonstrate that four area inches of runoff is being transpired into the atmosphere.

   Timber inventory plot data for Rio Hondo indicates a 23 percent increase in basal area from 1963 to 1974. Based on water yield studies in the southwest, this 23 percent increase in basal area accounts for 1 to 1.5 area inches of water that previously left the Rio Hondo watershed as surface flow.

   An accurate projection of the basal area in the early 1950's could show the average basal area around 50 to 60 square feet per acre. This information is not available nor could it extrapolated from existing data. If the basal area in the early 1950's was 50 to 60 square feet per acre one could account for 4 area inches of water or the bulk of the decrease in flow in the Rio Hondo.

5. Page 6-46 second paragraph, third sentence should read: It would be desirable if modifications made to the ski area compiled with this objective.

6. Page 5-25, Table 5-6.

   The annual visitation projection increase indicates clearly a 100% increase in use for Alternative B. This assumption used for this projection should be explained.

7. Page 5-27.

   Paragraph on Additional Impacts of Alternative E. The 20% figure is based on the 1980-81 season maximum capacity of 4000. Actual peak use (1979) was 4,400, thus, the increase is actually 10%. This is discussed correctly on pages 6-50.

This EIS does a commendable job of addressing the pertinent issues and consequences. It is obvious that a great deal of effort and time has gone into this document.

Sincerely,

Jack Crellin

JACK CRELLIN
Forest Supervisor